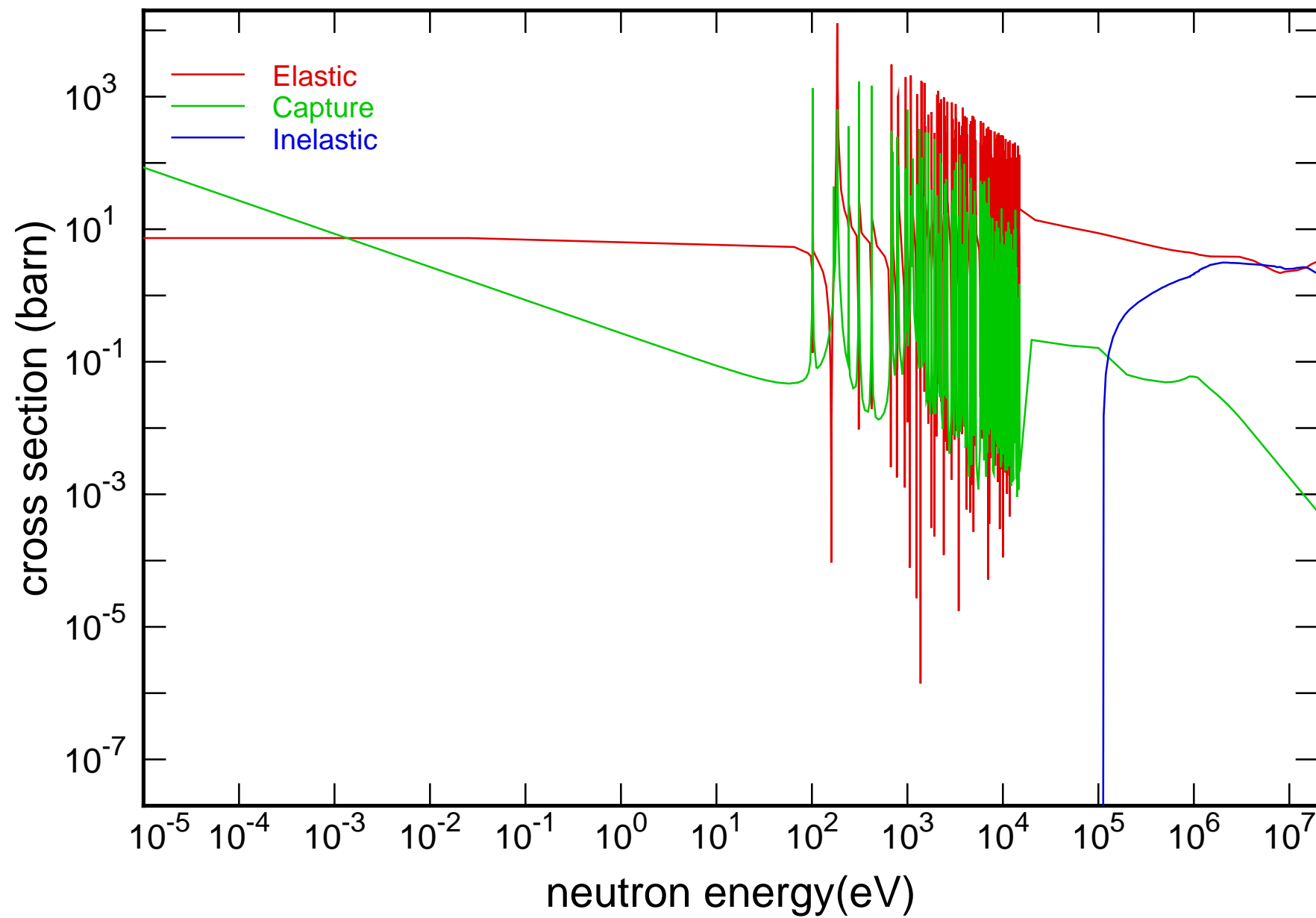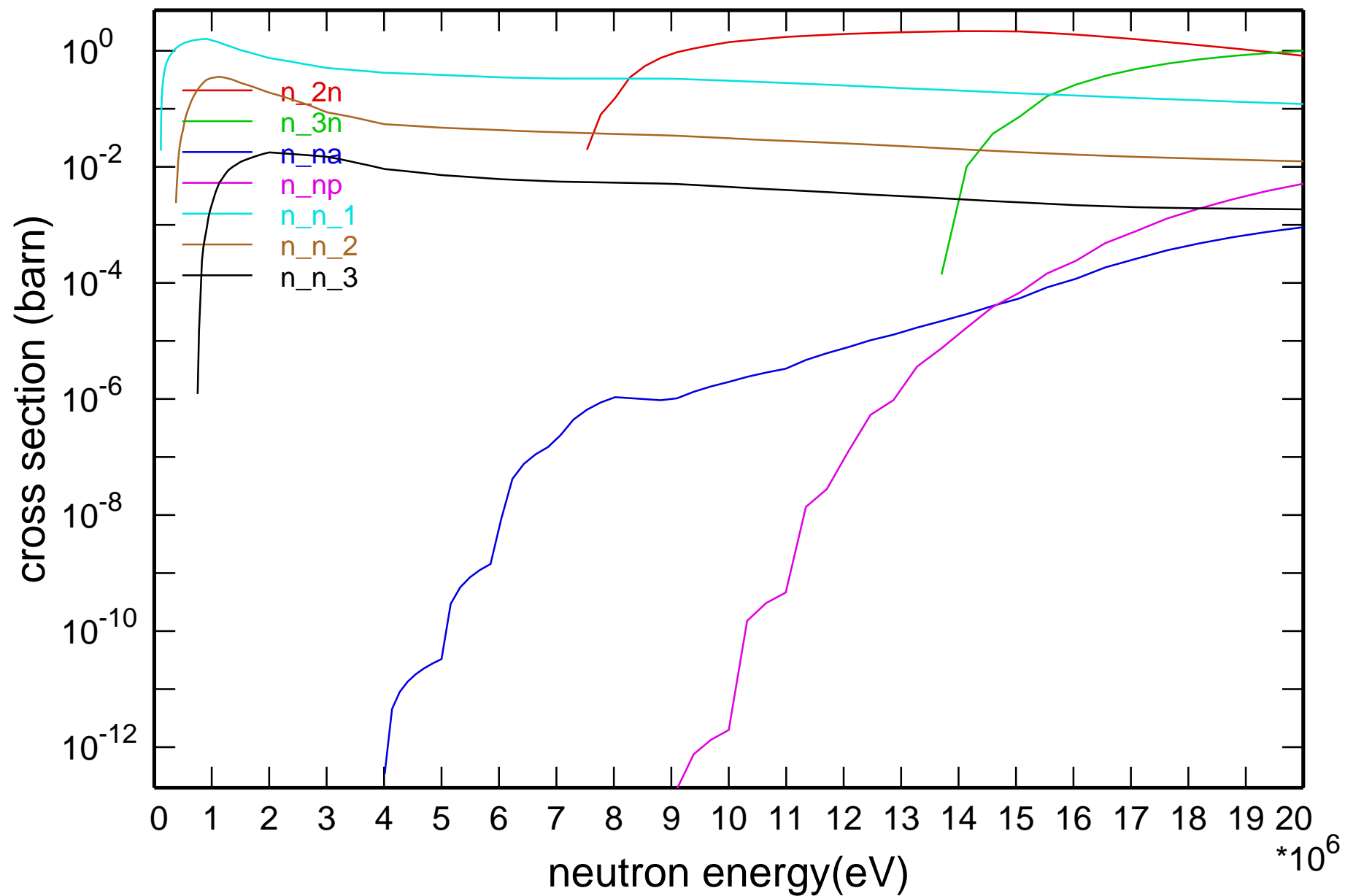Main Cross Sections

Cross Section

Cross Section

Cross Section

n_n_cont
n_n_tot
n_p_tot
n_d_tot
n_a_tot

cross section (barn)

neutron energy(eV)

$*10^6$
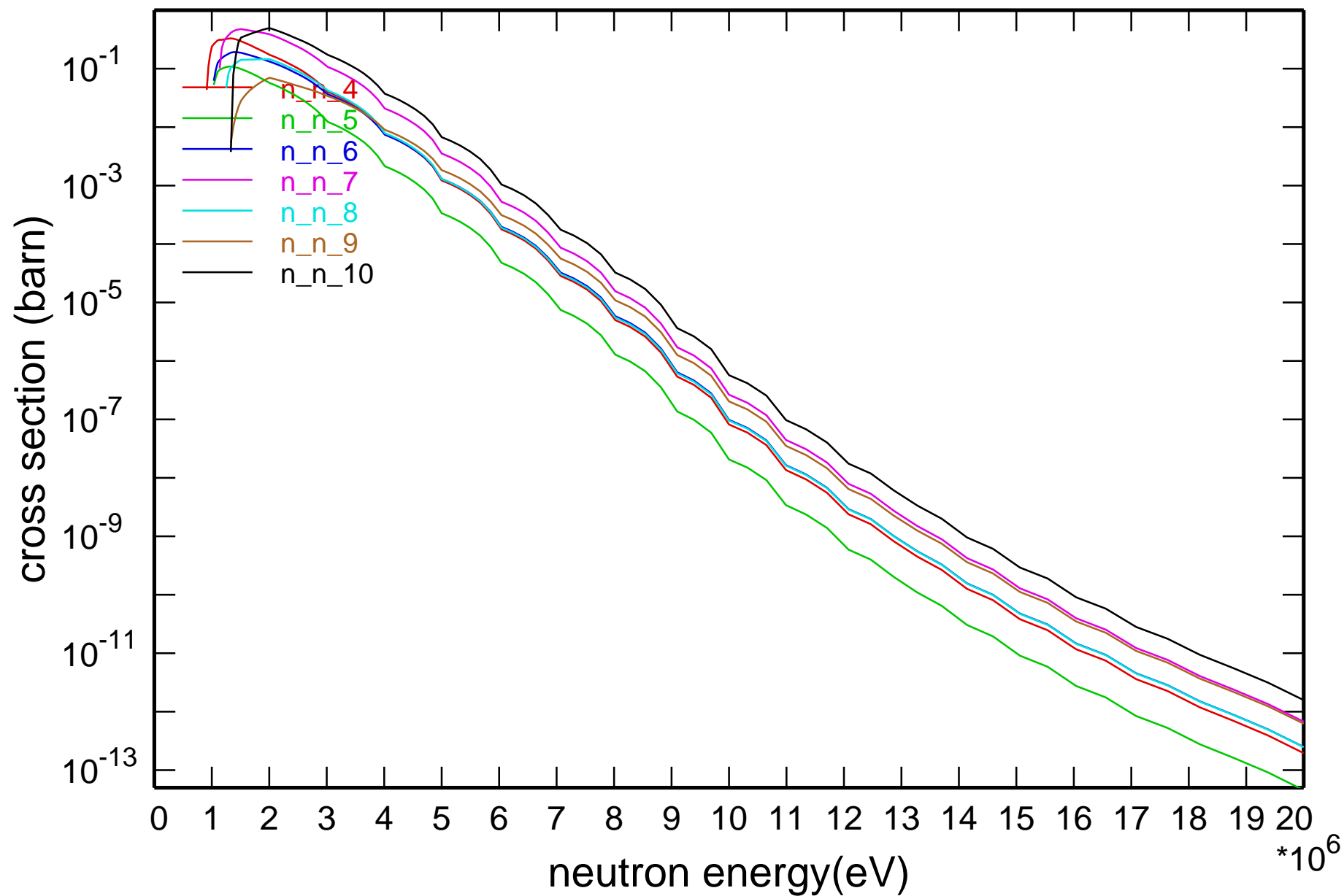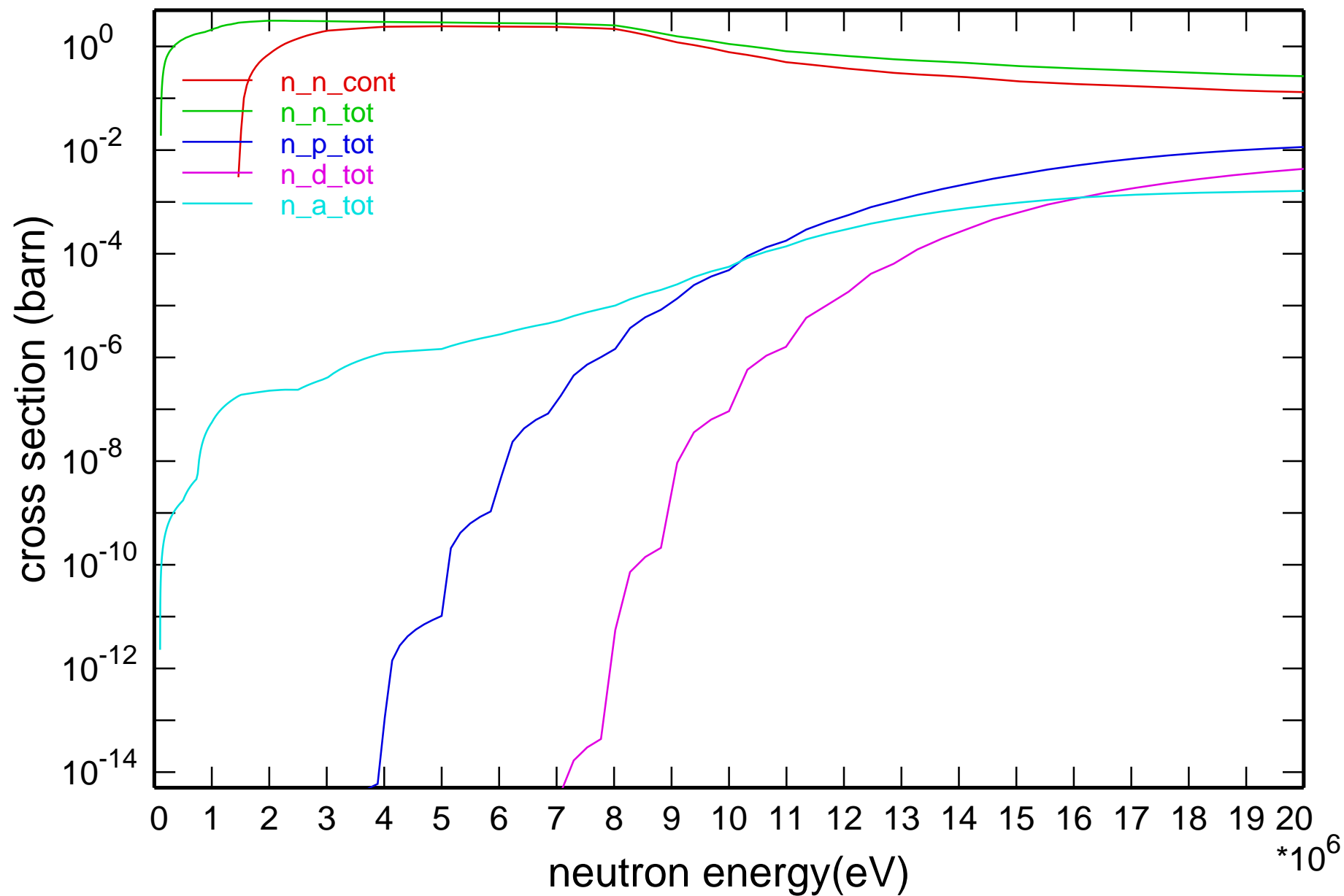
Angular distribution (CMS)
Elastic

probability

neutron energy (eV)

cos(theta)

10^0

10^{-2}

$*10^6$

20

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

Angular distribution (CMS)
n_2n

probability

cos(theta)

neutron energy (eV)

*10⁶

20

15

10

5

1.0 0.5 0.0 -0.5 -1.0
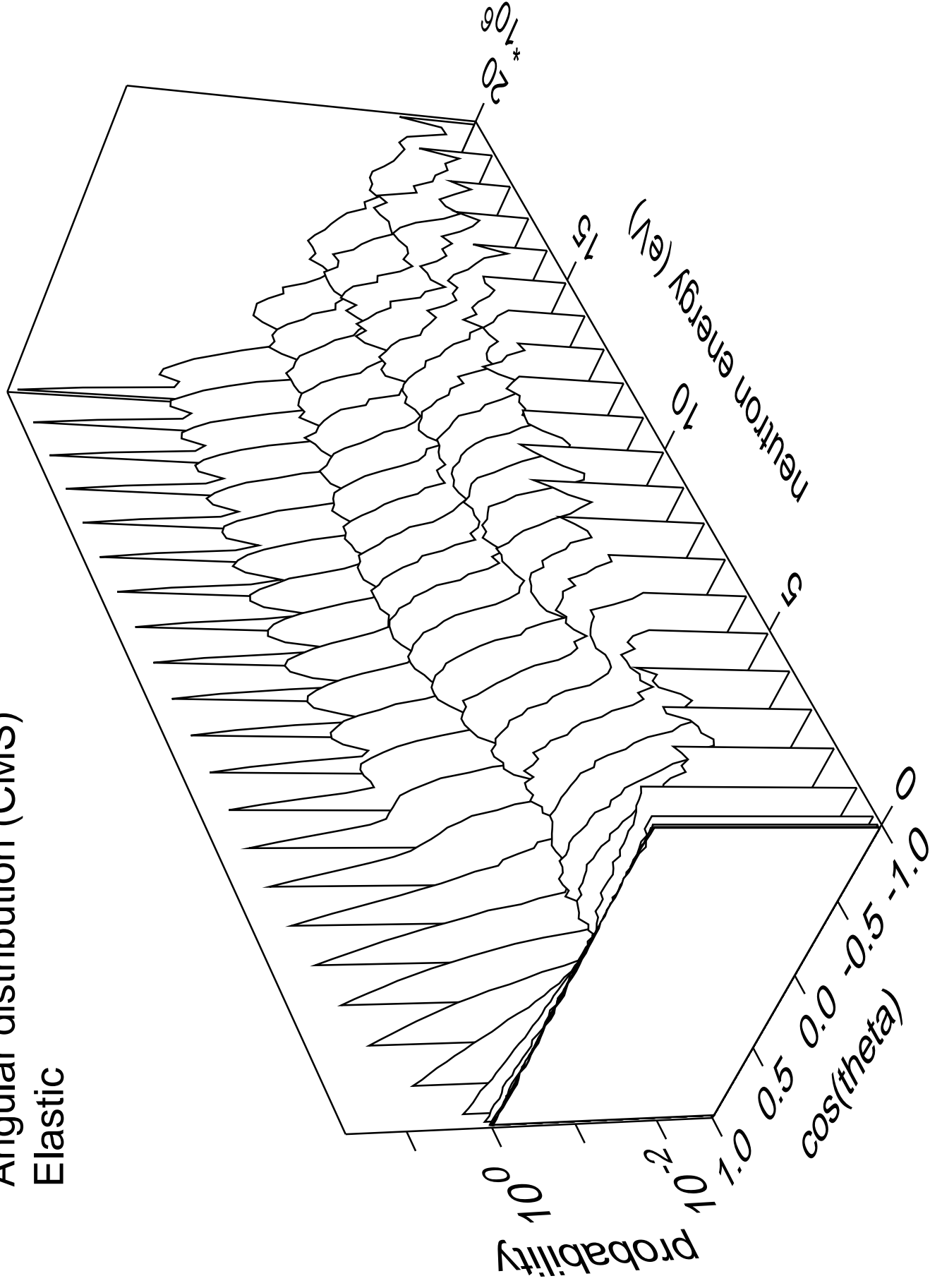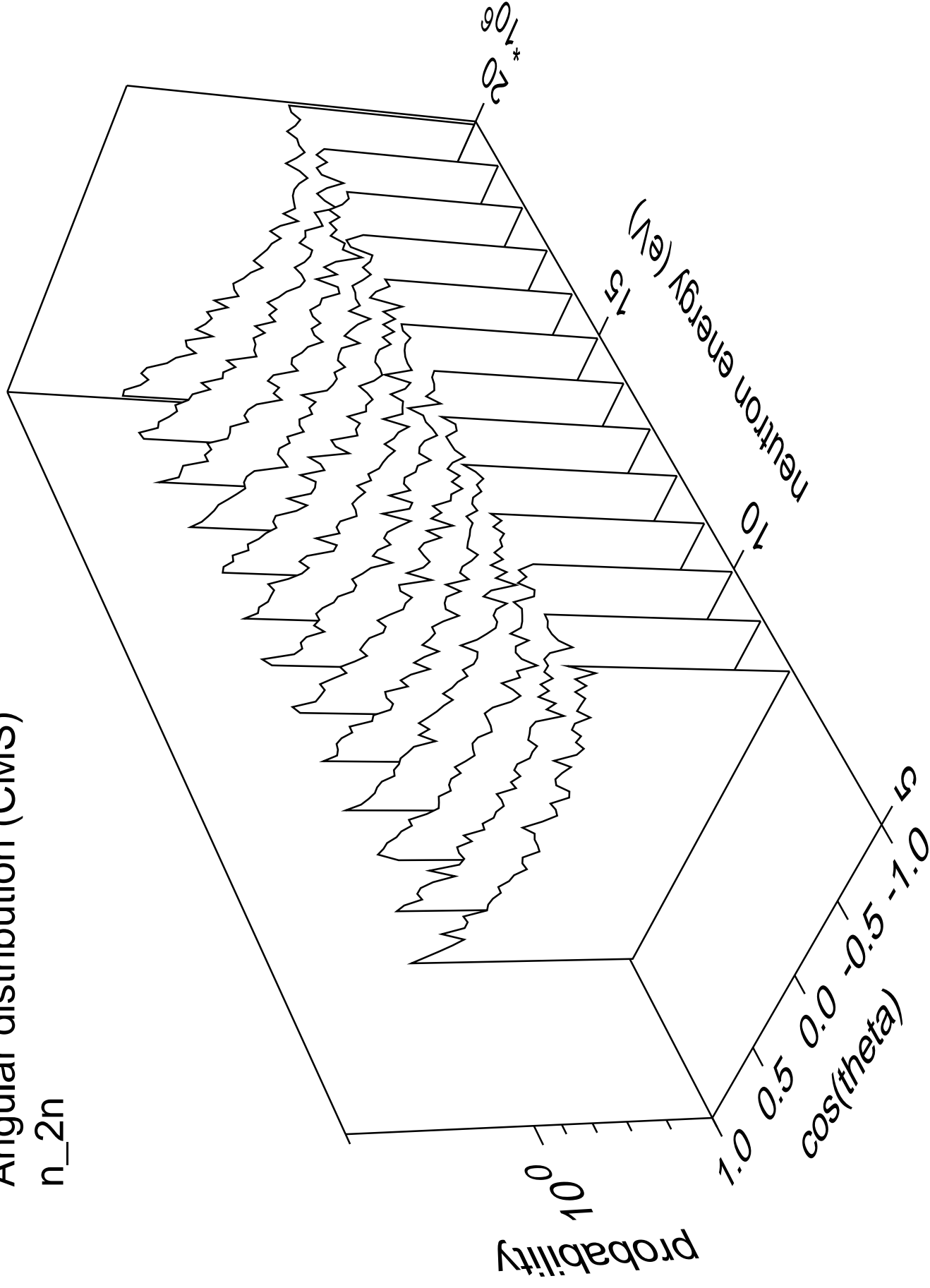
Angular distribution (CMS)
n_3n

Angular distribution (CMS)
n_na
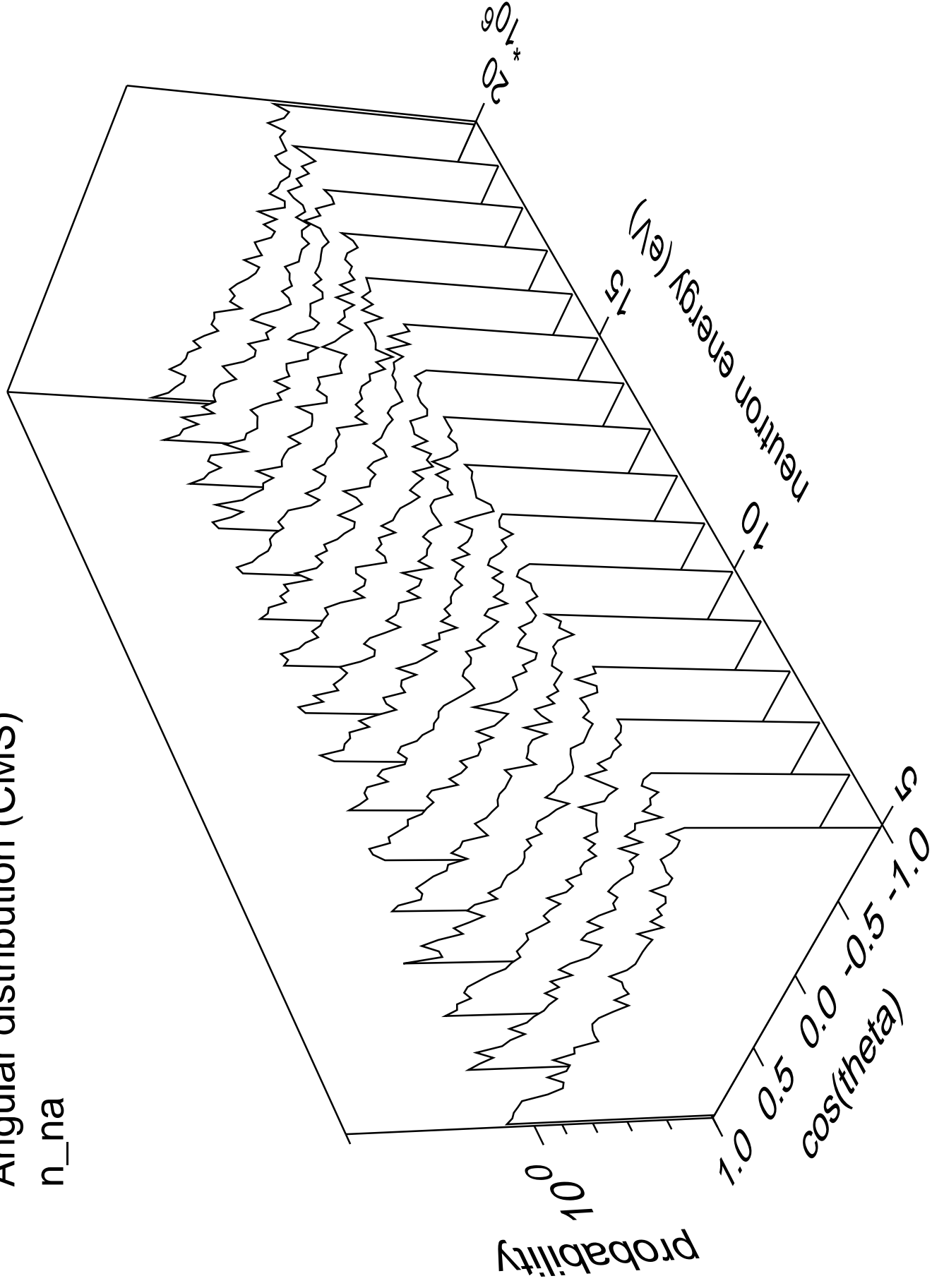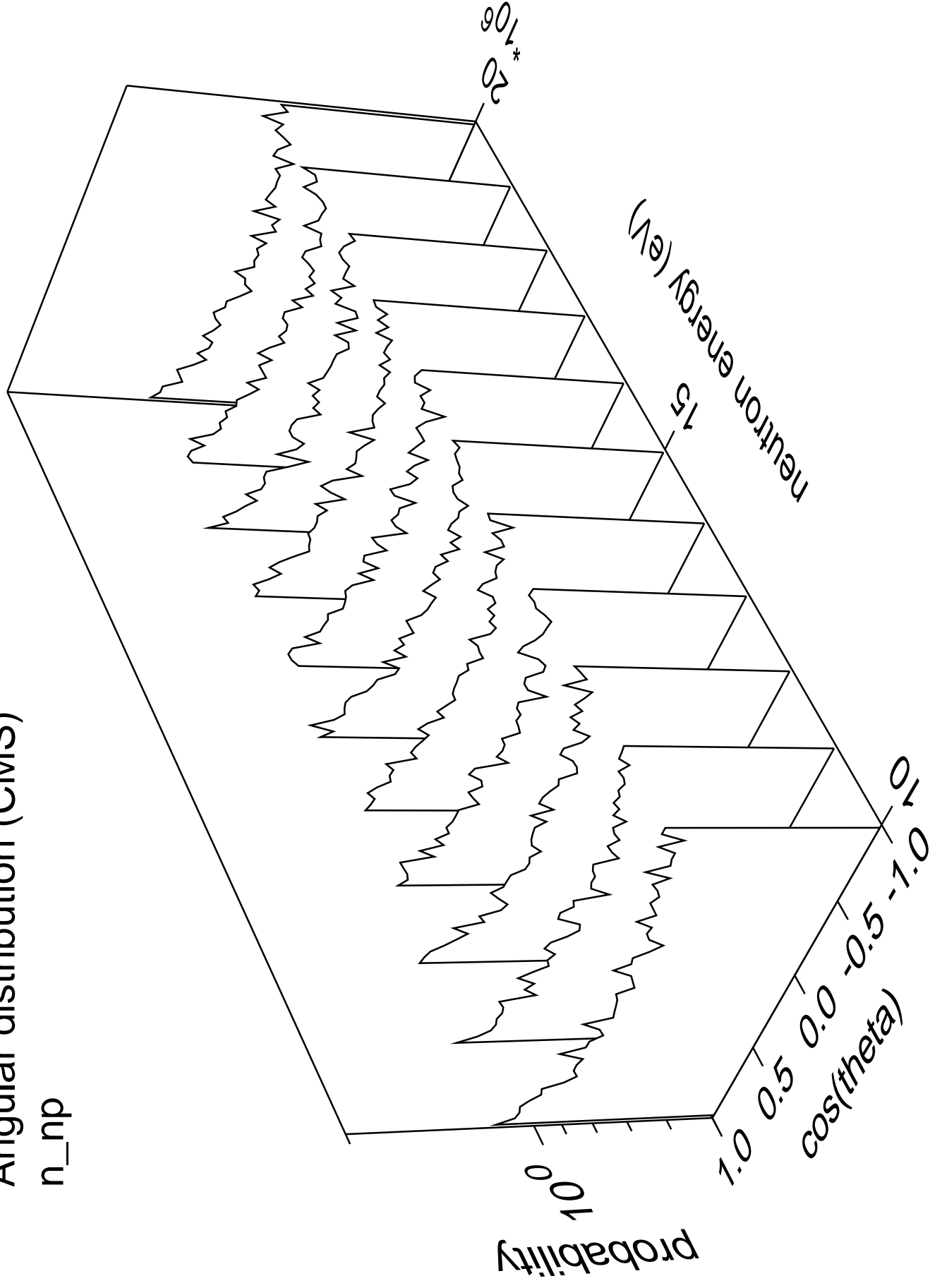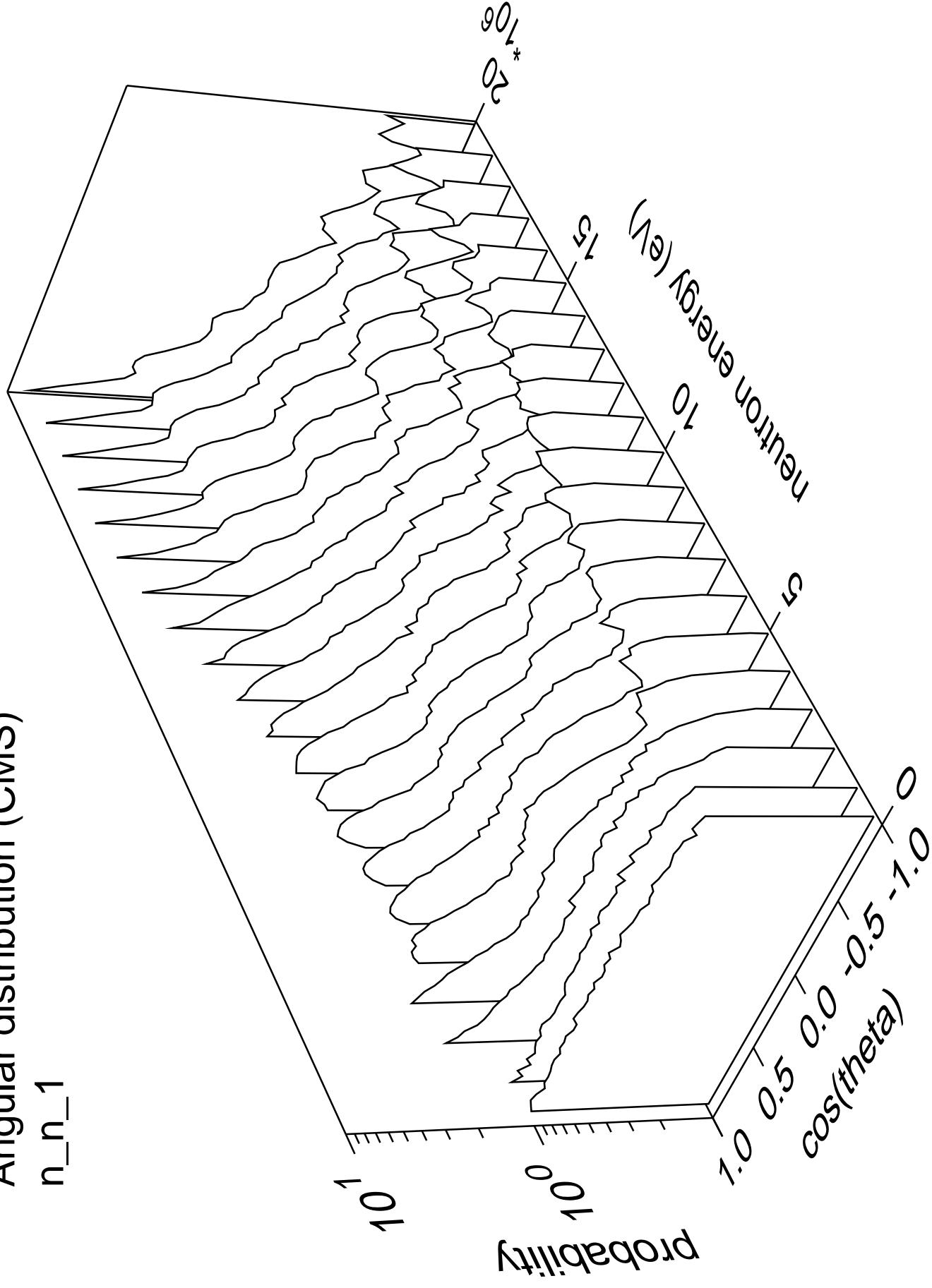
probability

cos(theta)

neutron energy (eV)

*10⁶

Angular distribution (CMS)
n_np

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_1

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_2

neutron energy (eV)

cos(theta)

probability

10^0

20 *10^6

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

Angular distribution (CMS)
n_n_3

probability

neutron energy (eV)

cos(theta)

Angular distribution (CMS)
n_n_4

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_5

neutron energy (eV)

20 *10⁶

15

10

5

0

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

probability

10⁰

Angular distribution (CMS)
n_n_6

probability

10^0

neutron energy (eV)

*10^6

20

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

cos(theta)

Angular distribution (CMS)
n_n_7

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_8

probability

cos(theta)

neutron energy (eV)

$*10^6$

Angular distribution (CMS)
n_n_9

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10⁰

Angular distribution (CMS)
n_n_10

probability

cos(theta)

neutron energy (eV)

*10⁶

Angular distribution (CMS)
n_n_cont

cos(theta)

neutron energy (eV)

probability

10^0

Energy distribution (CMS)
n_2n

probability

10^1

10^{-1}

neutron energy (eV)

20   *10^6

15

10

5

energy (eV)

0

5

10

15   *10^6
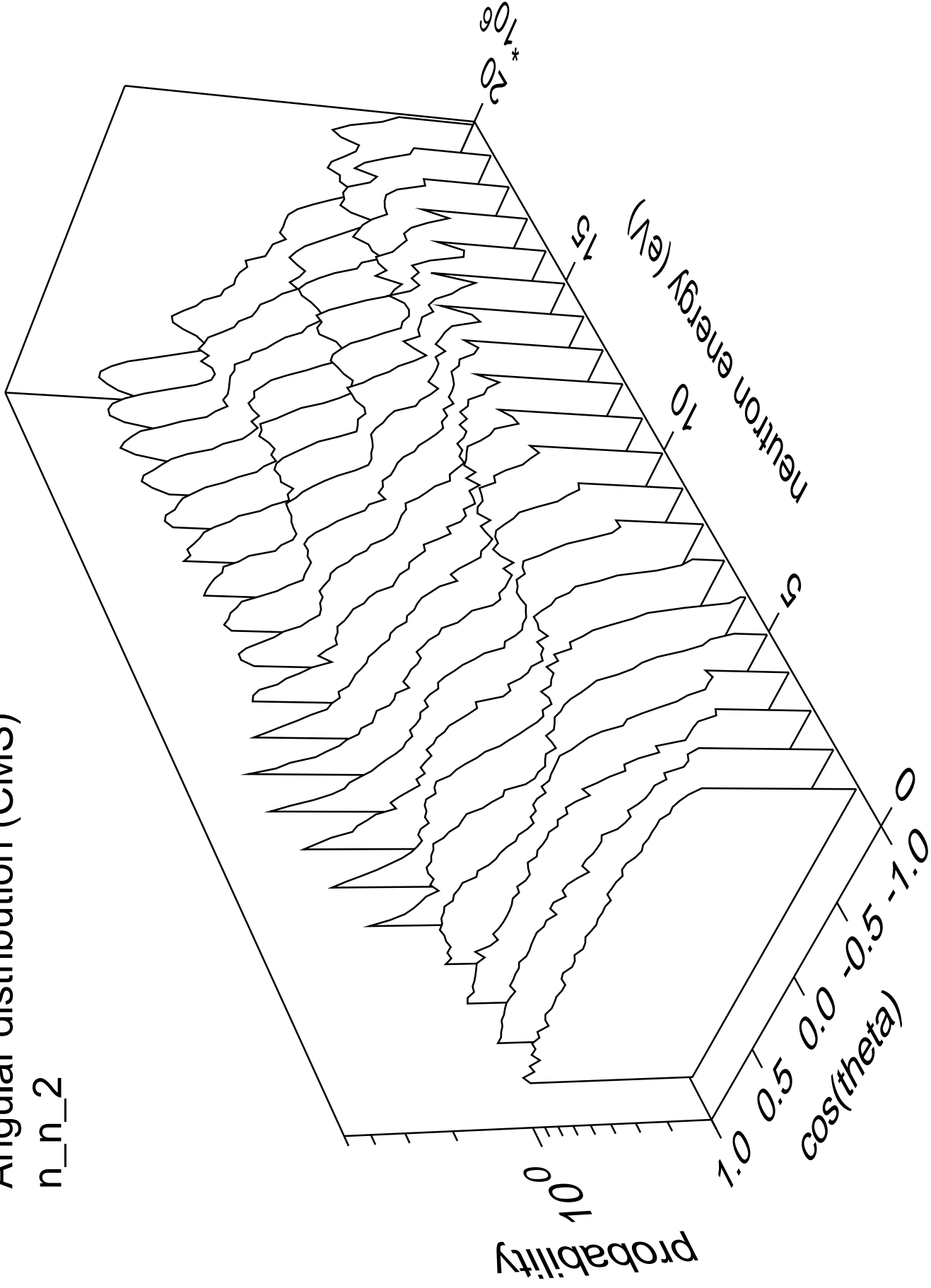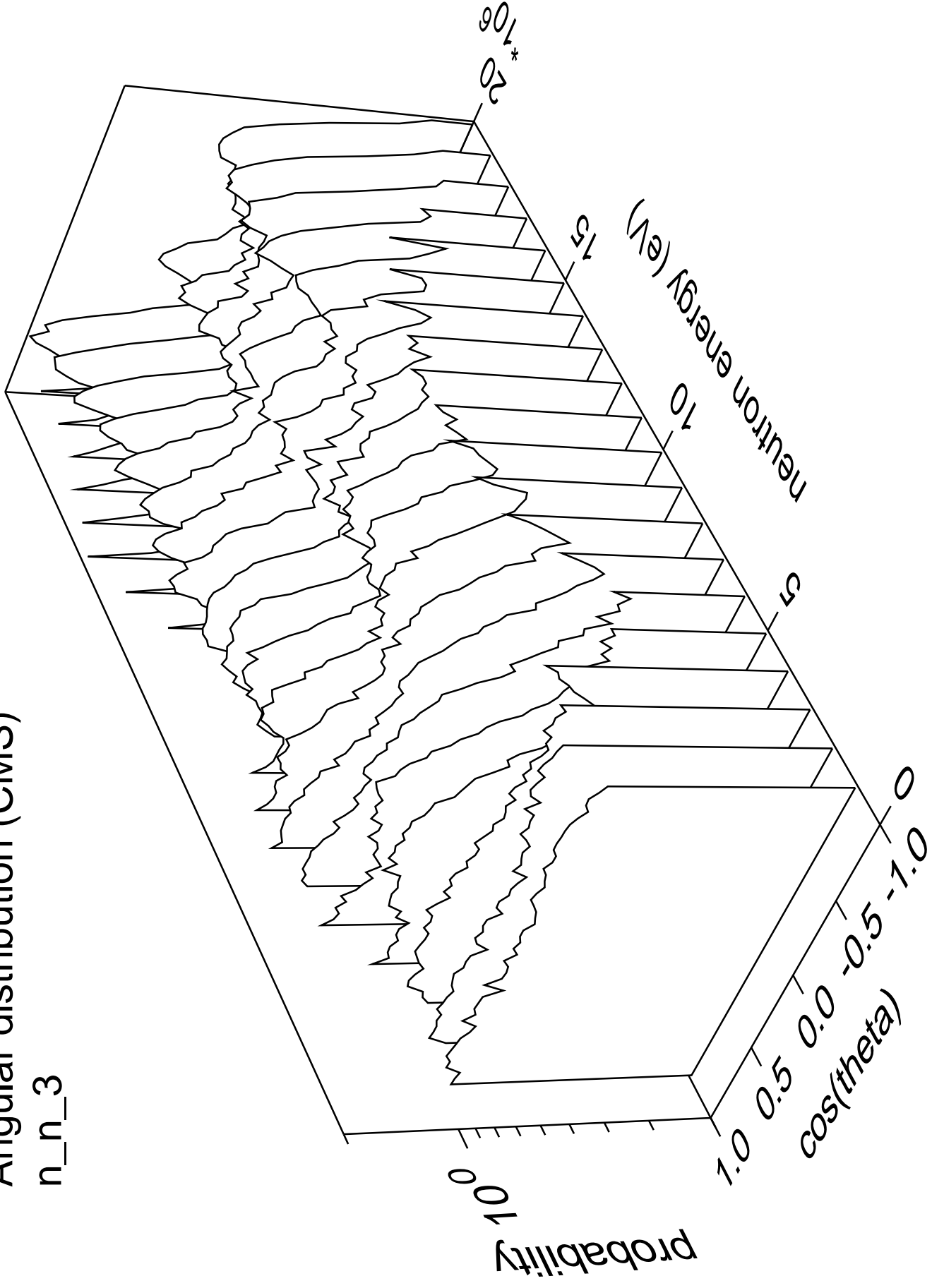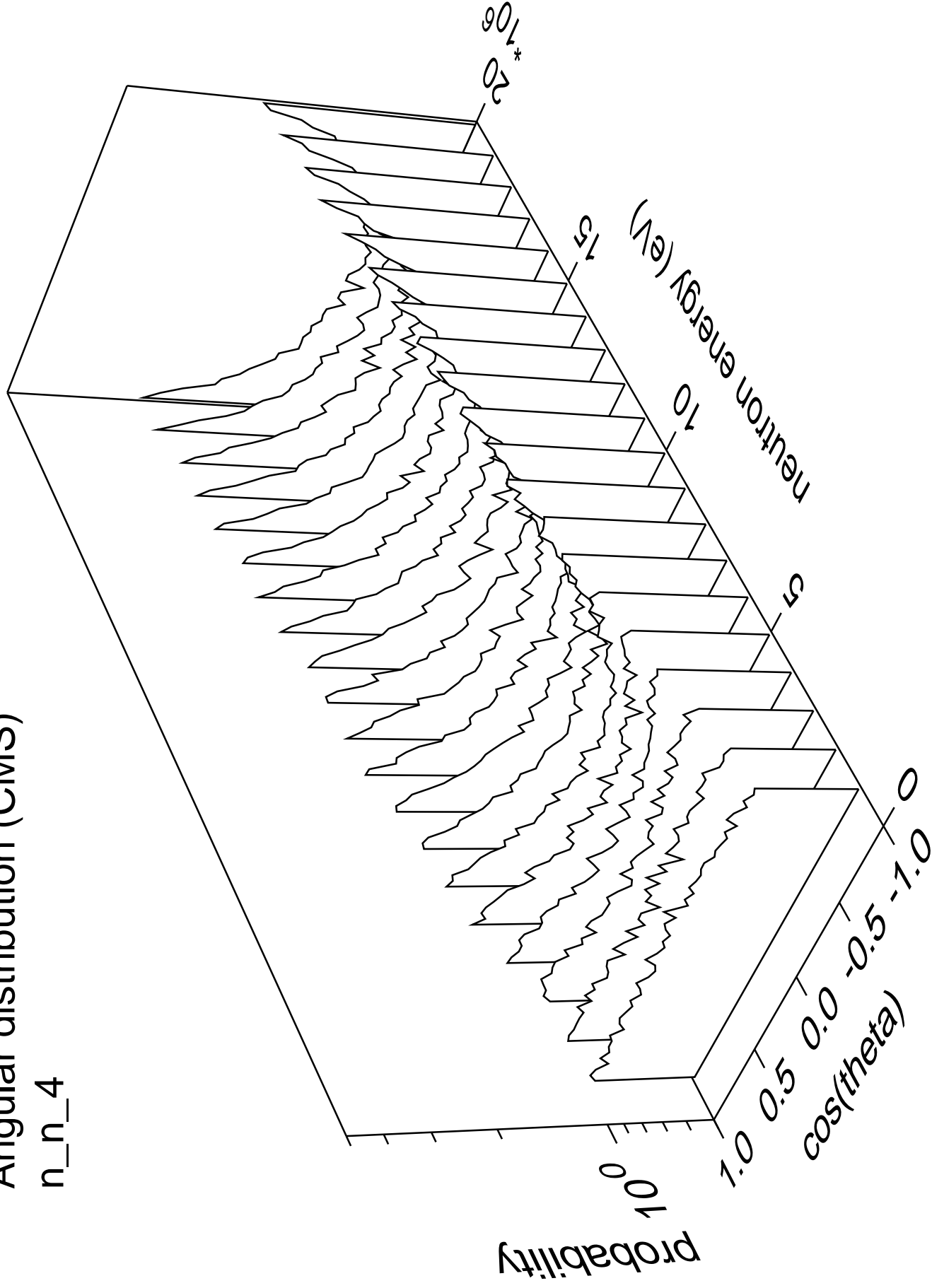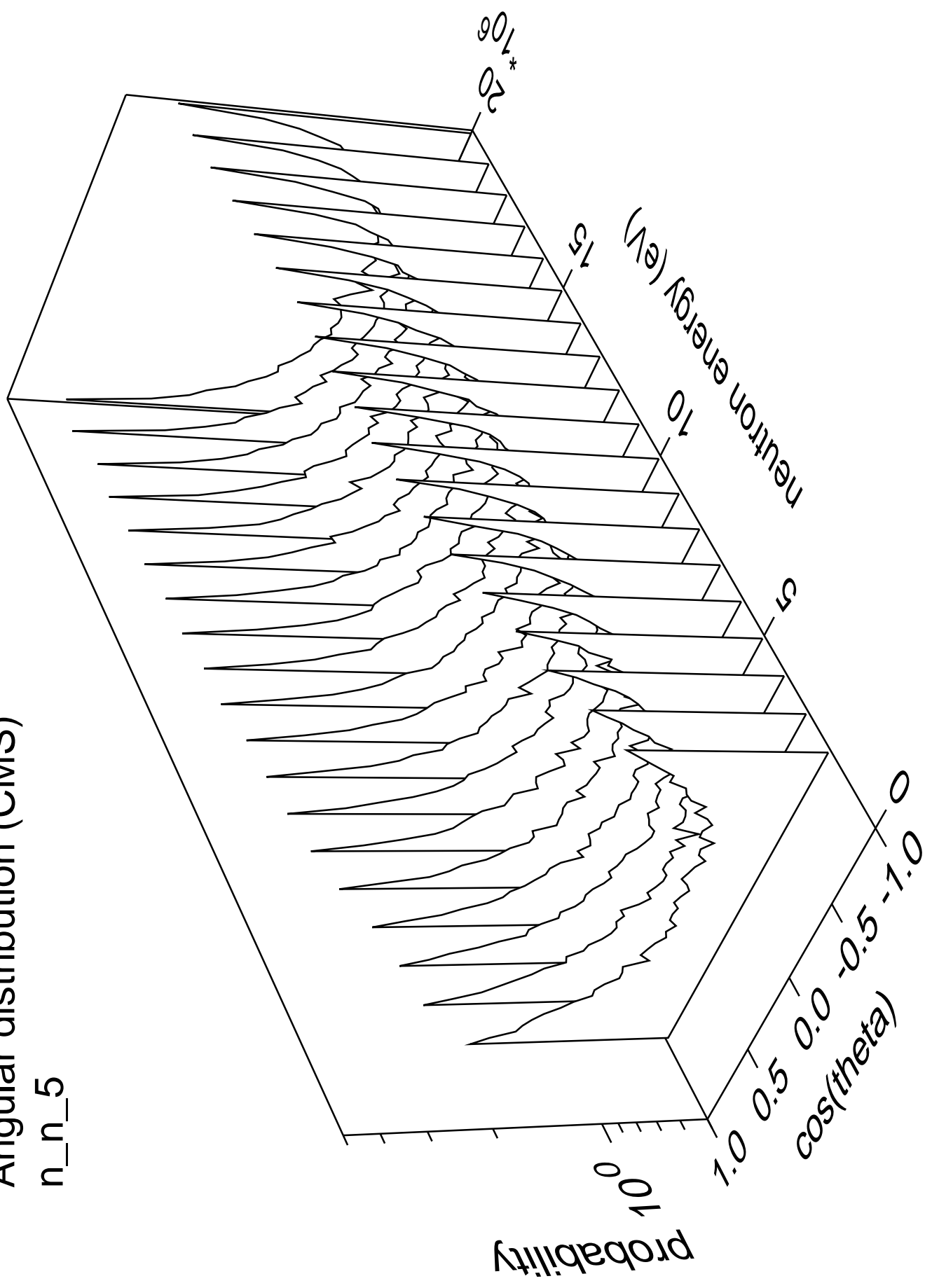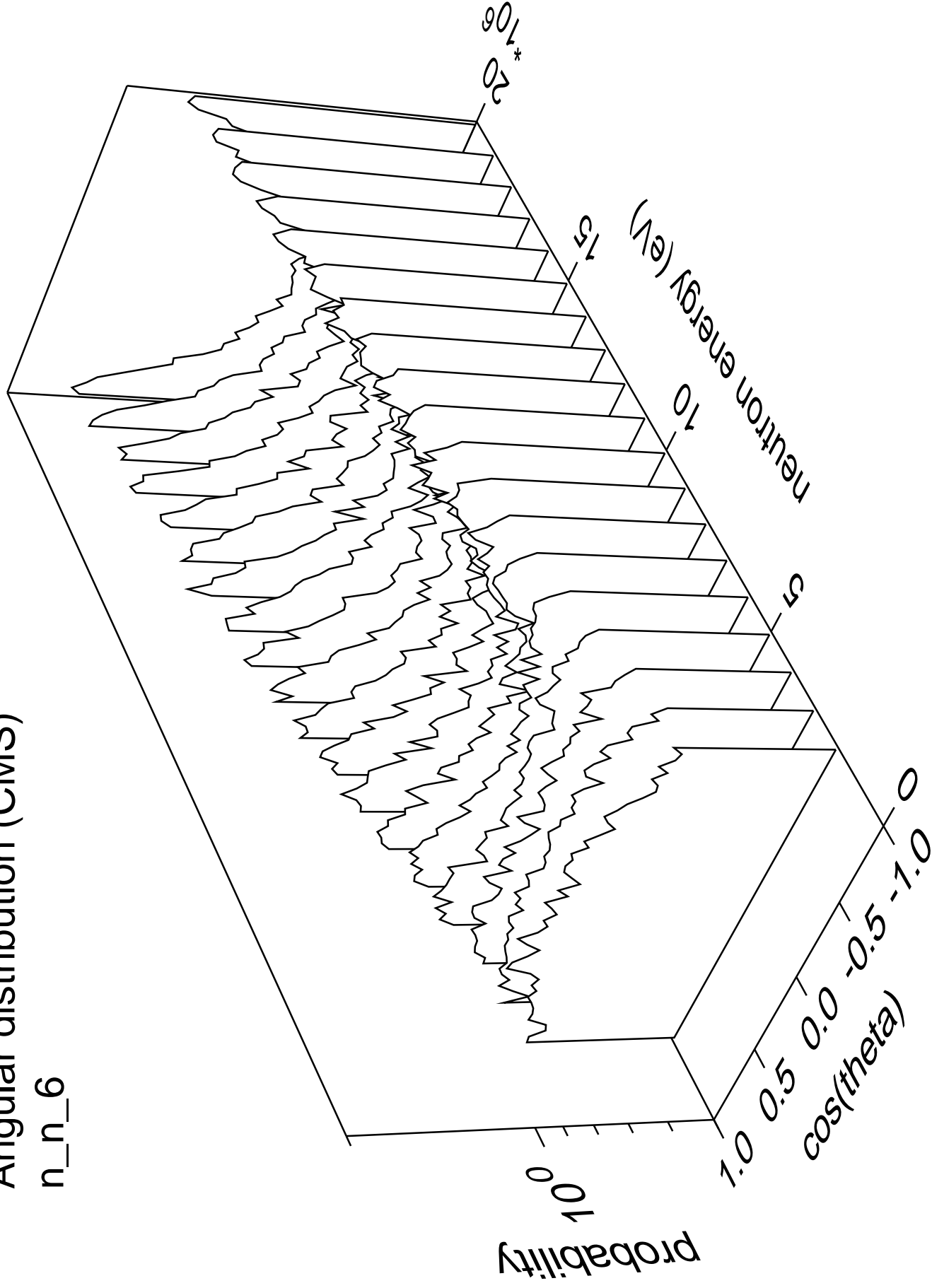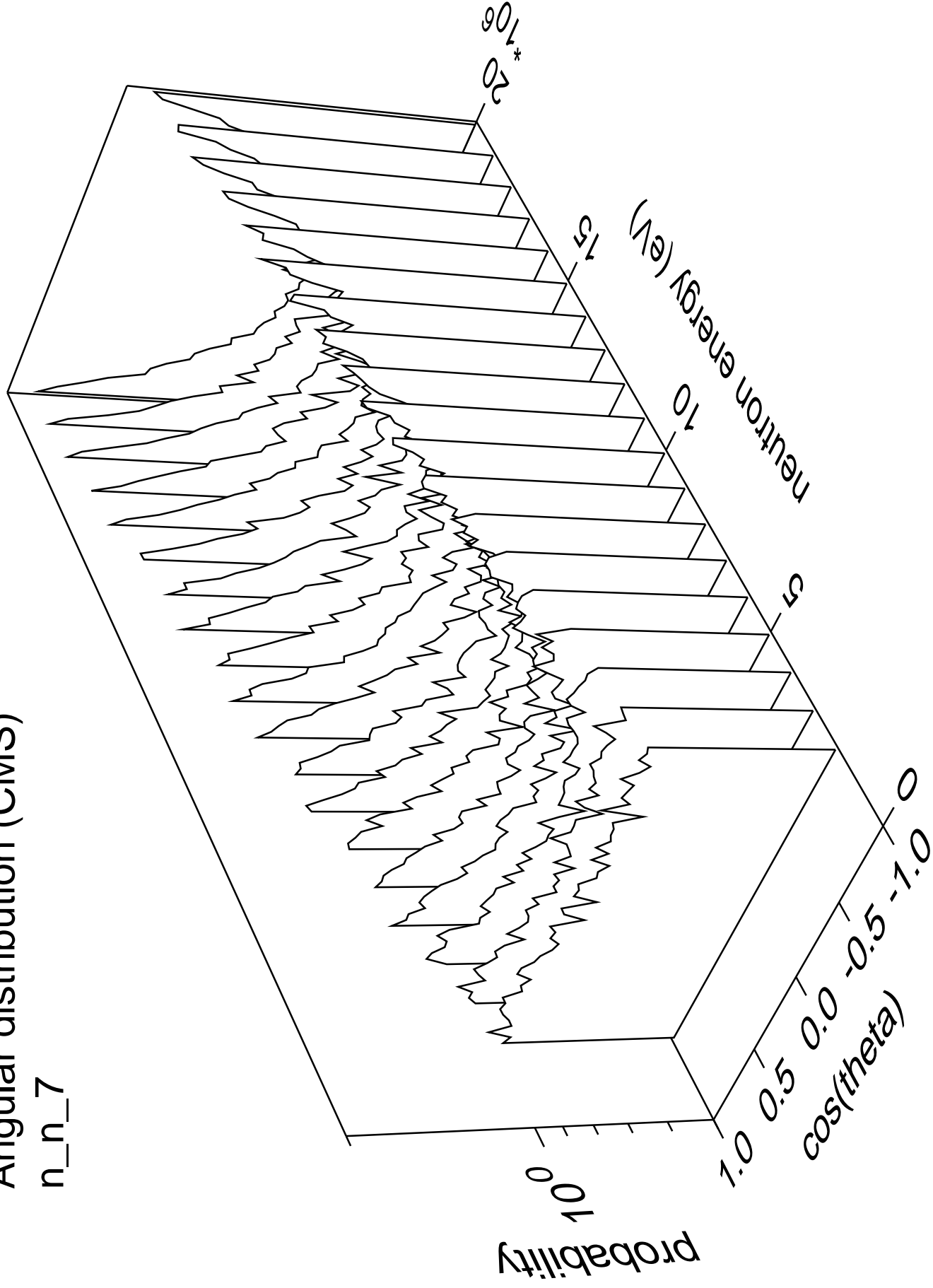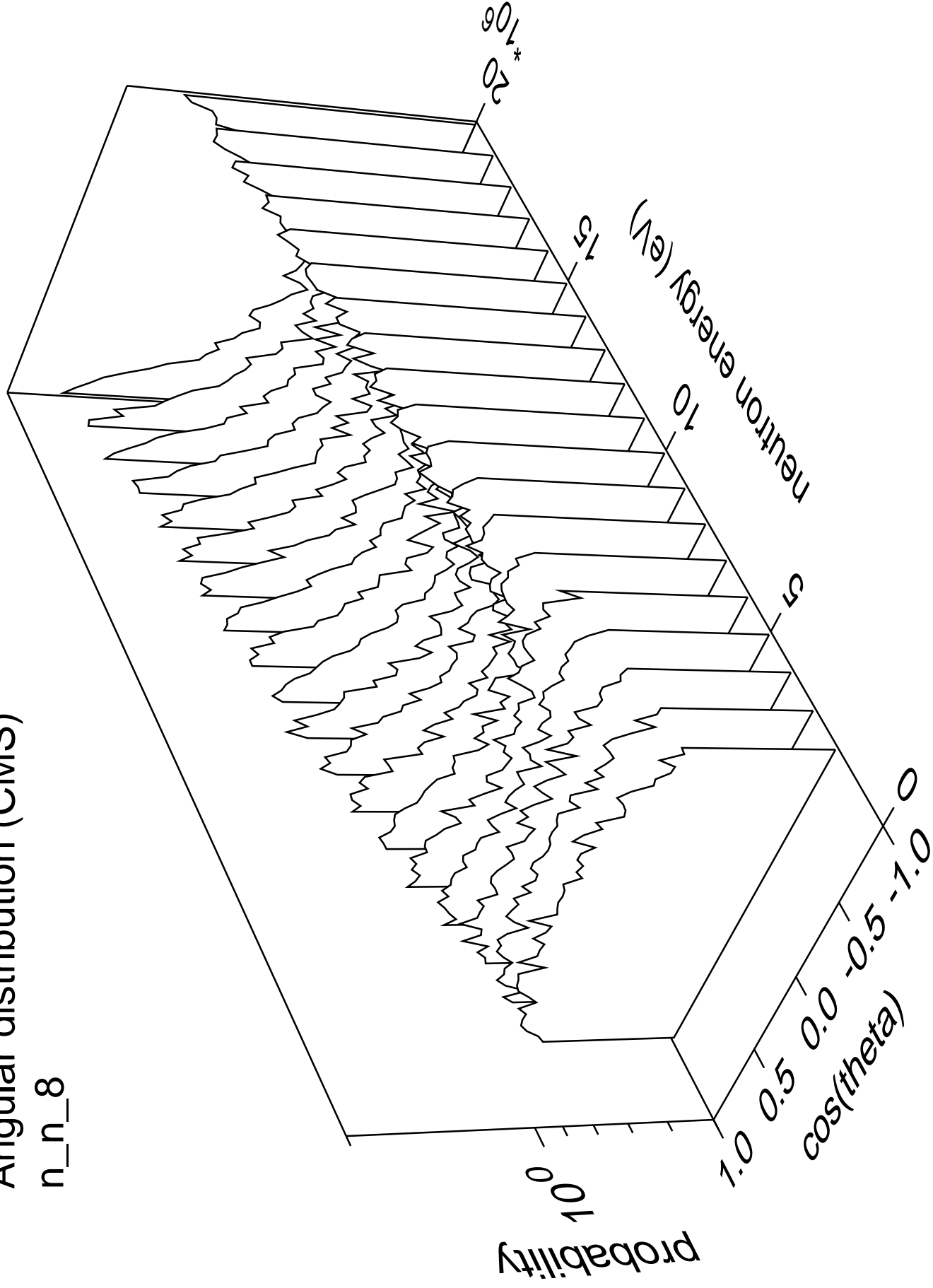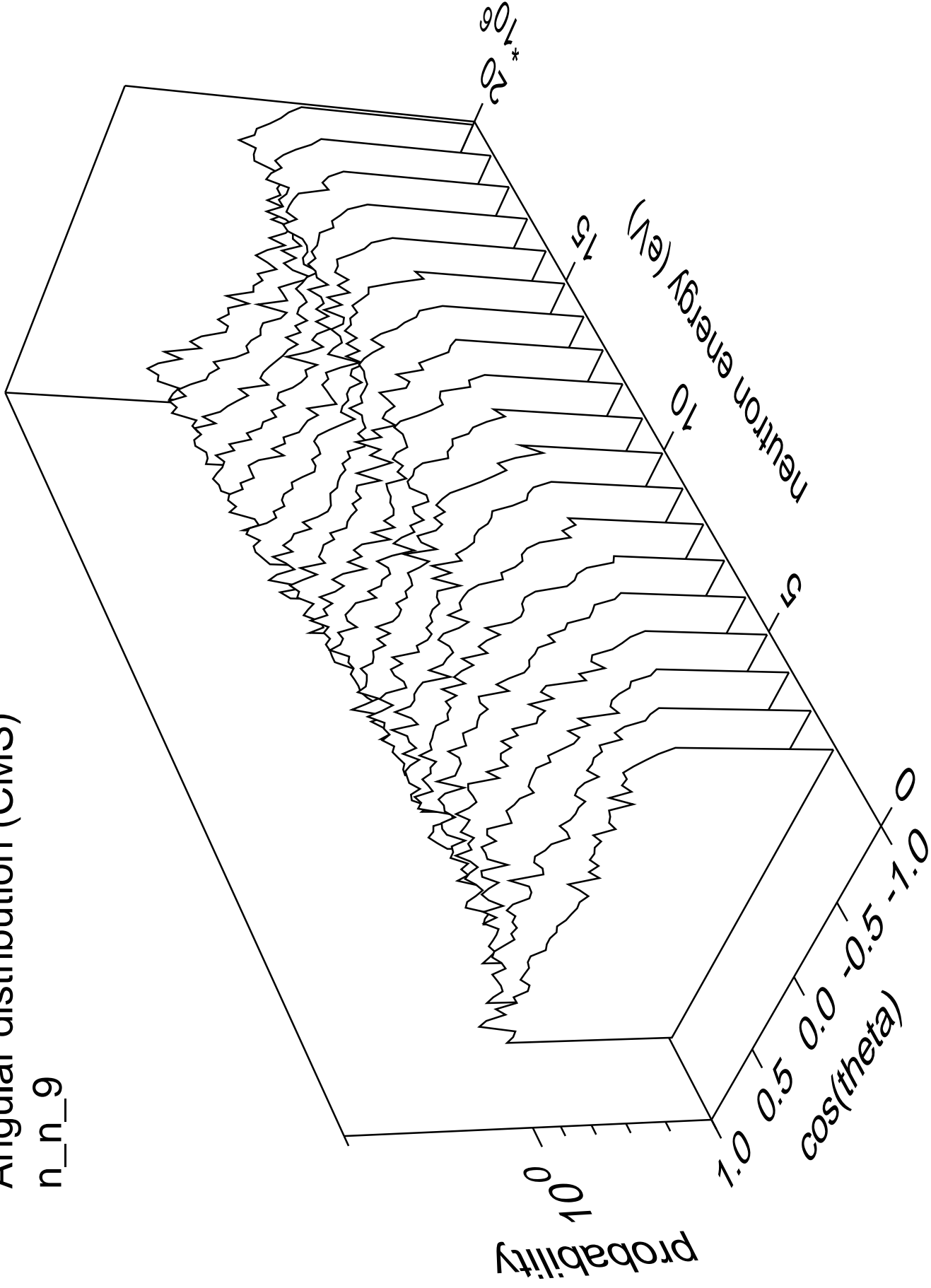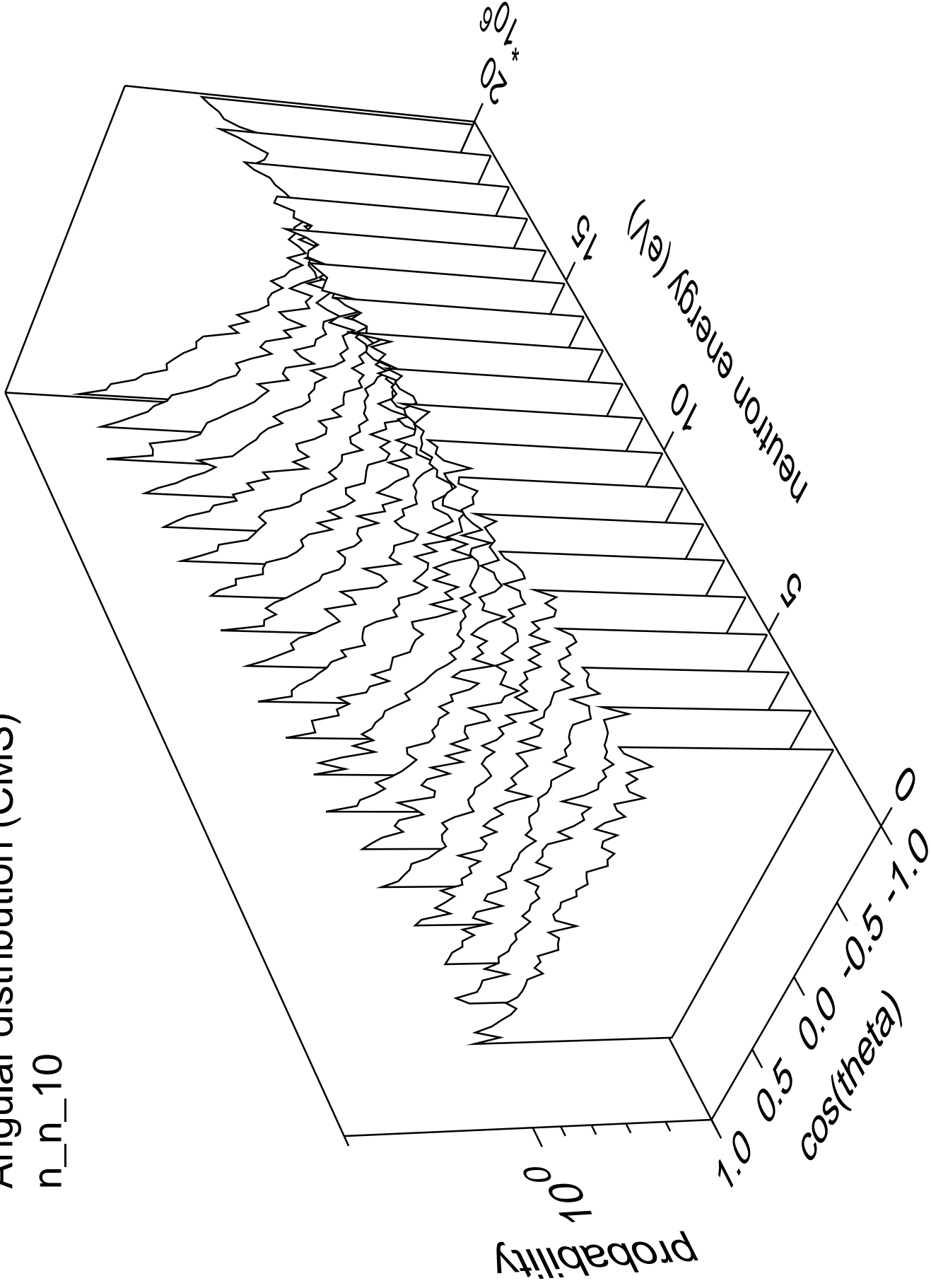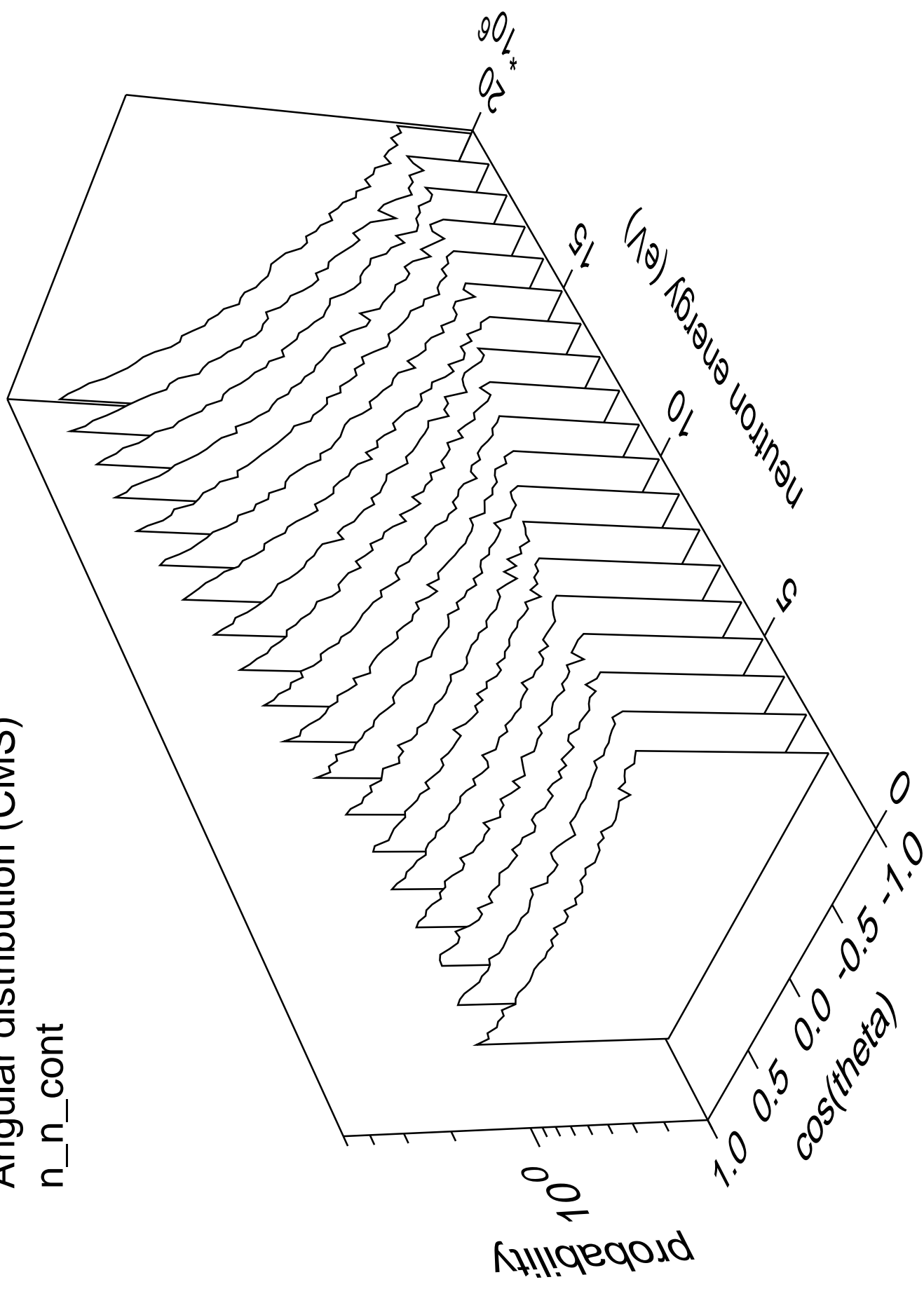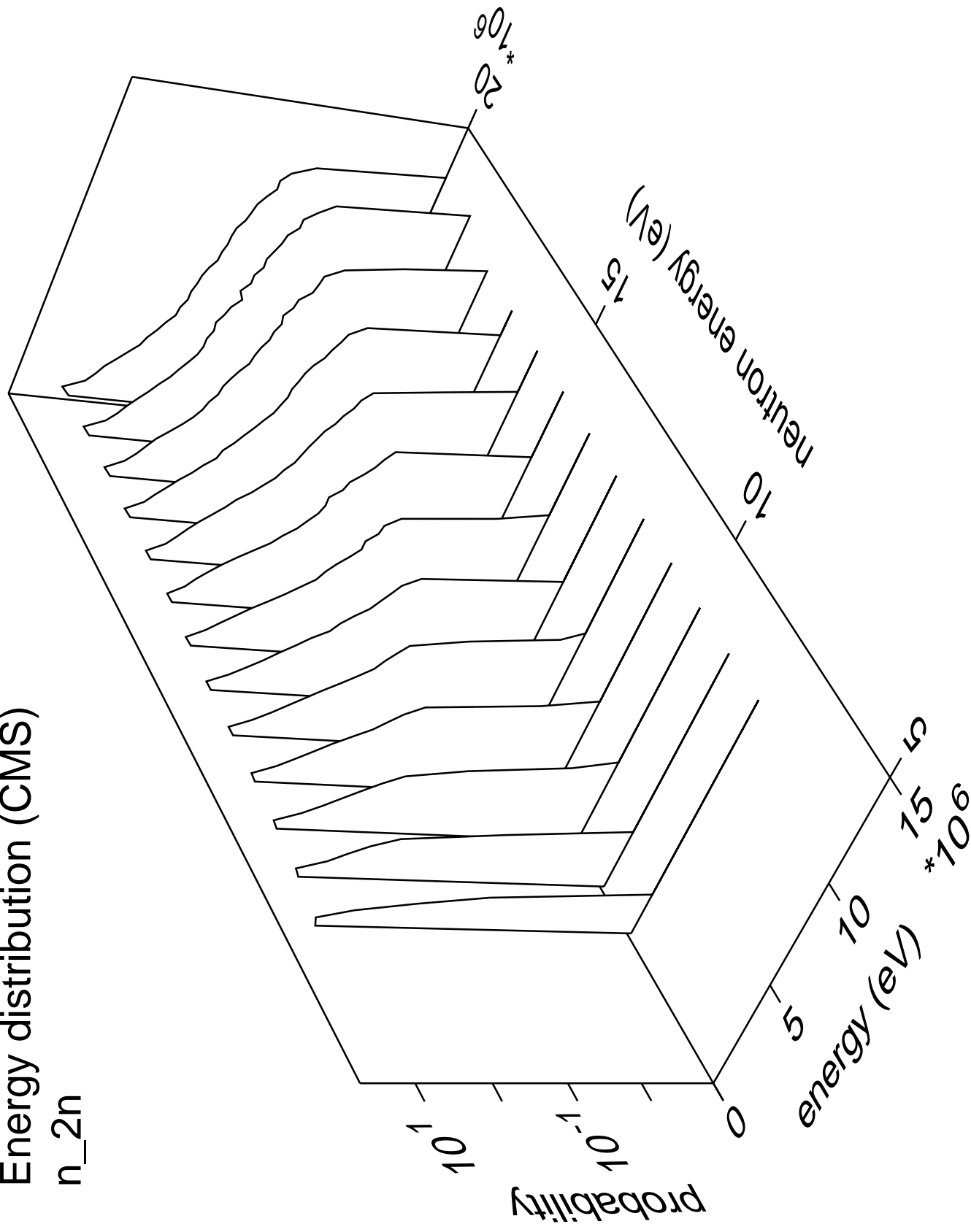
Energy distribution (CMS)
n_3n

Energy distribution (CMS)
n_na
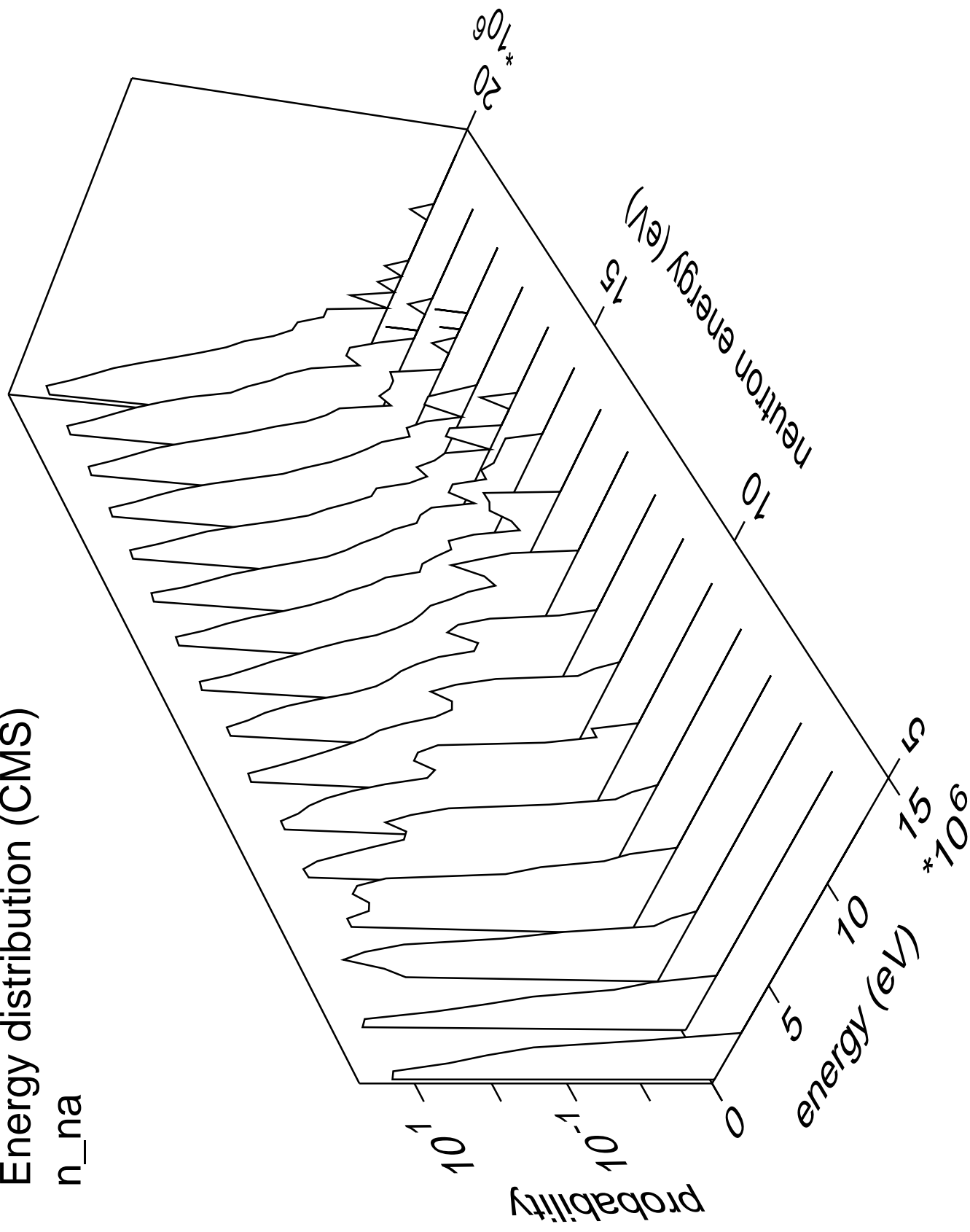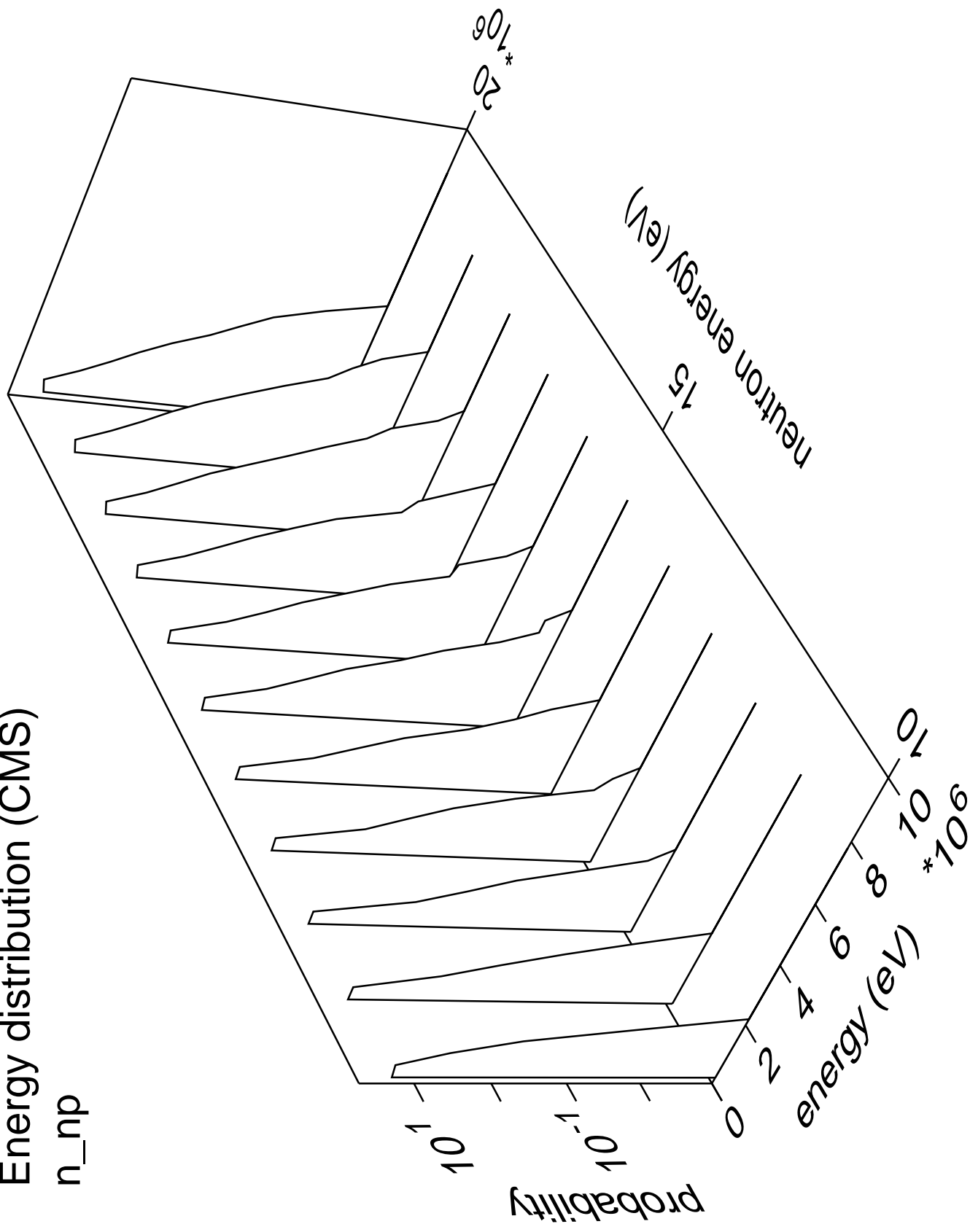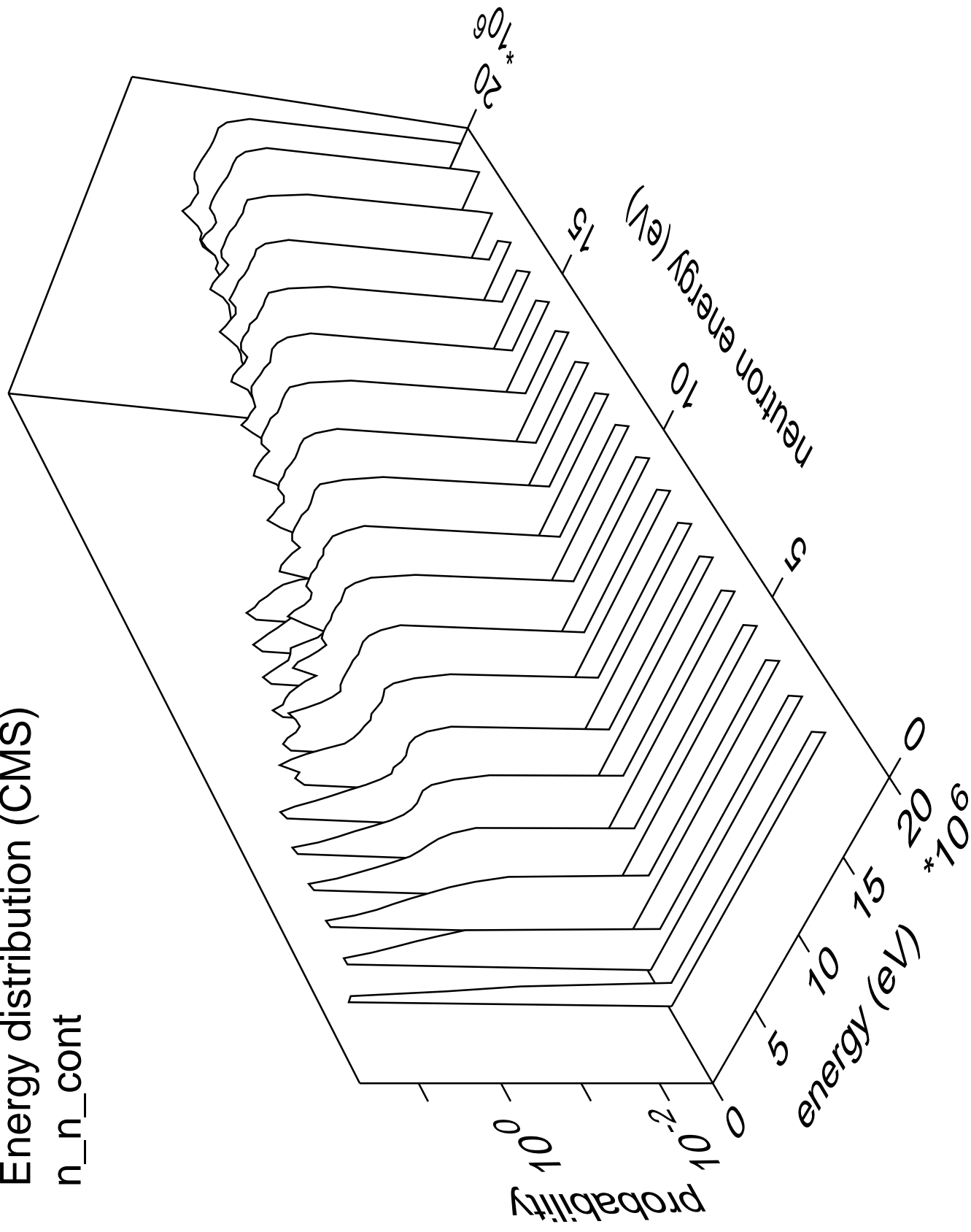
probability

10^1

10^{-1}

energy (eV)

0

5

10

15

*10^6

5

10

15

20

*10^6

neutron energy (eV)

Energy distribution (CMS)
n_np

probability

10^1

10^{-1}

energy (eV)

0   2   4   6   8   10   *10⁶

neutron energy (eV)

10   15   20   *10⁶

Energy distribution (CMS)
n_n_cont

probability

energy (eV)   *10⁶

neutron energy (eV)   *10⁶

Gamma energy distribution
Capture

probability

neutron energy (eV)

gamma energy (MeV)

Gamma angles distribution
Capture

neutron energy (eV)

cos(theta)

probability

1.0 *10⁶

0.5

0.0

1.0 0.5 0.0 -0.5 -1.0

10⁰

Gamma multiplicities distribution
Capture

neutron energy (eV)

multiplicity

probability

Gamma energy distribution
n_n_1

probability

gamma energy (MeV)

neutron energy (eV)

Gamma angles distribution
n_n_1

probability

10^0

neutron energy (eV)

1000 *10^3

800

600

400

200

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

Gamma multiplicities distribution

Gamma energy distribution
n_n_2

neutron energy (eV)

gamma energy (MeV)

probability

2

$*10^6$

0   5   10   15   20

20   40   60

0

Gamma angles distribution
n_n_2

probability

cos(theta)

neutron energy (eV)

Gamma multiplicities distribution
n_n_2

probability

multiplicity

neutron energy (eV)

2 *10⁶

Gamma energy distribution
n_n_3

probability

gamma energy (MeV)

neutron energy (eV)

2 *10⁶

0   5   10   15   20

0   20

20   40   60   80
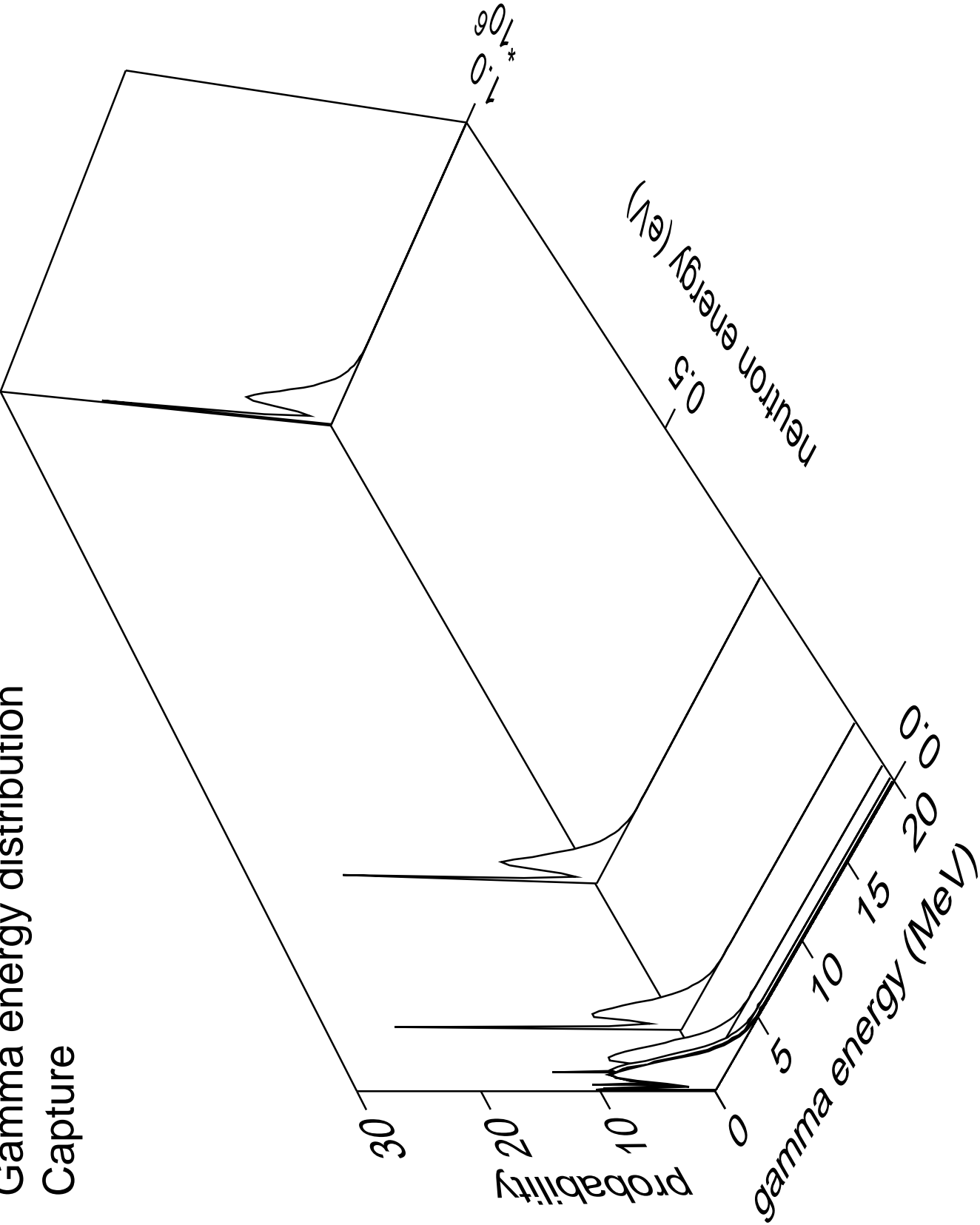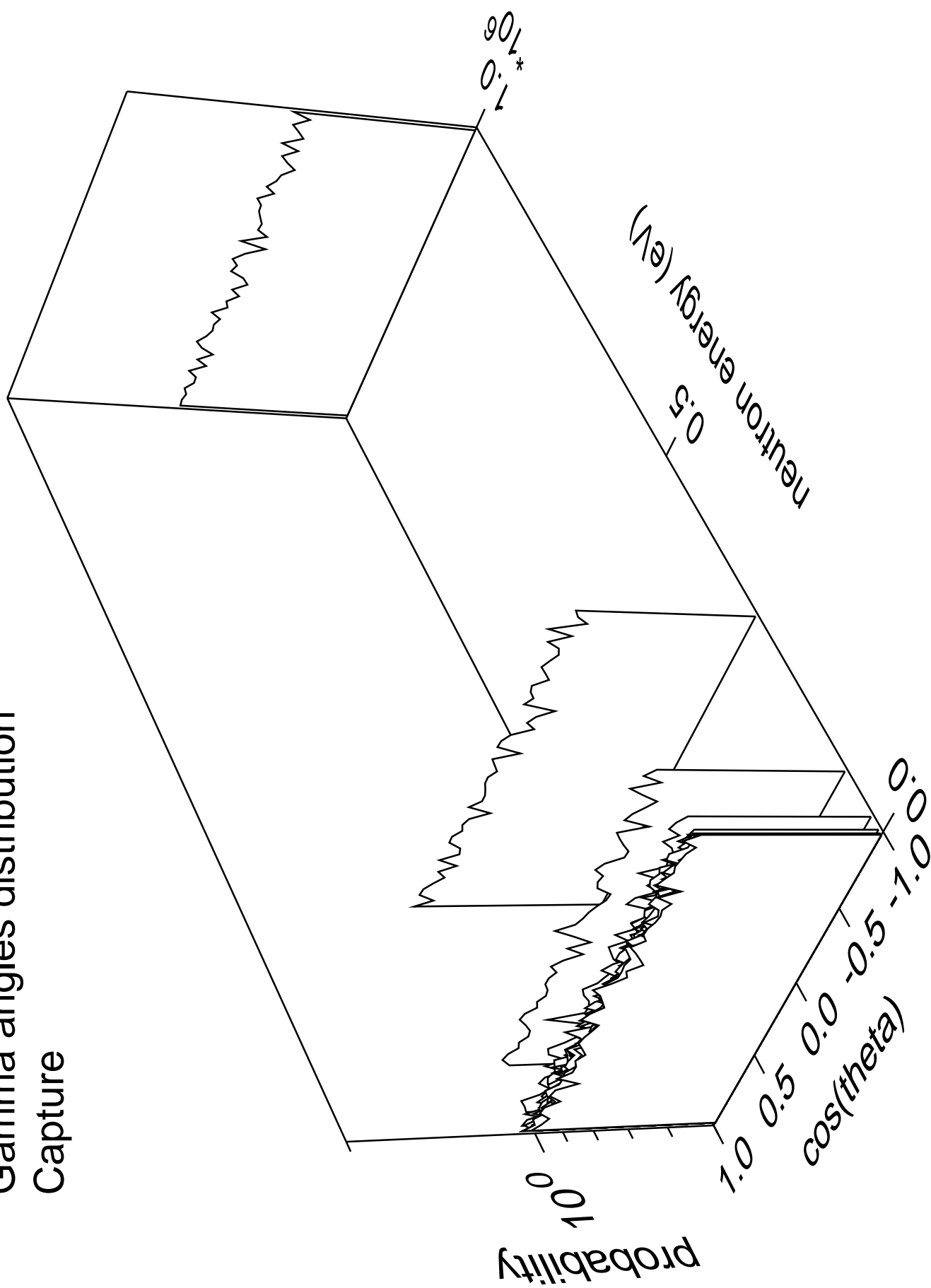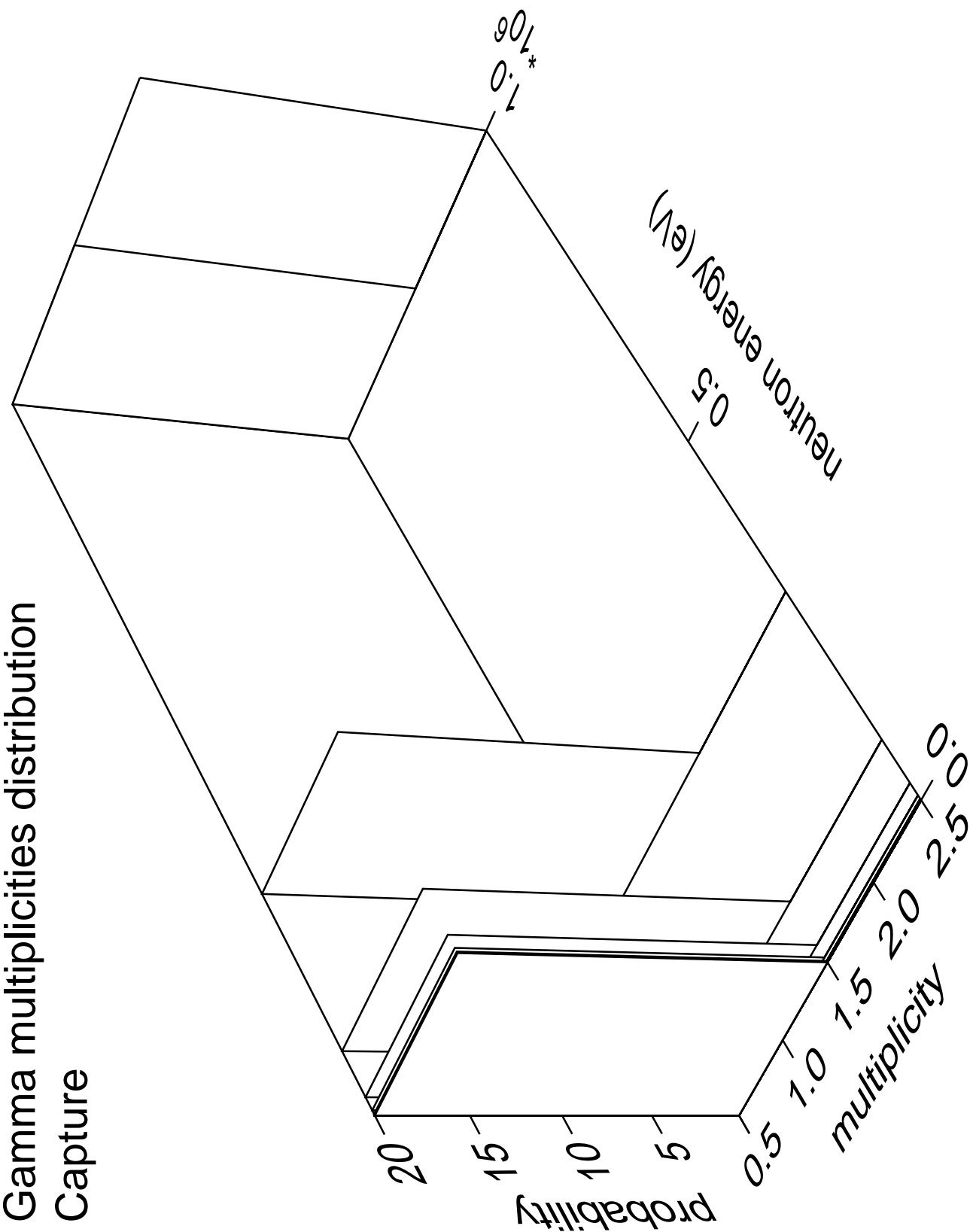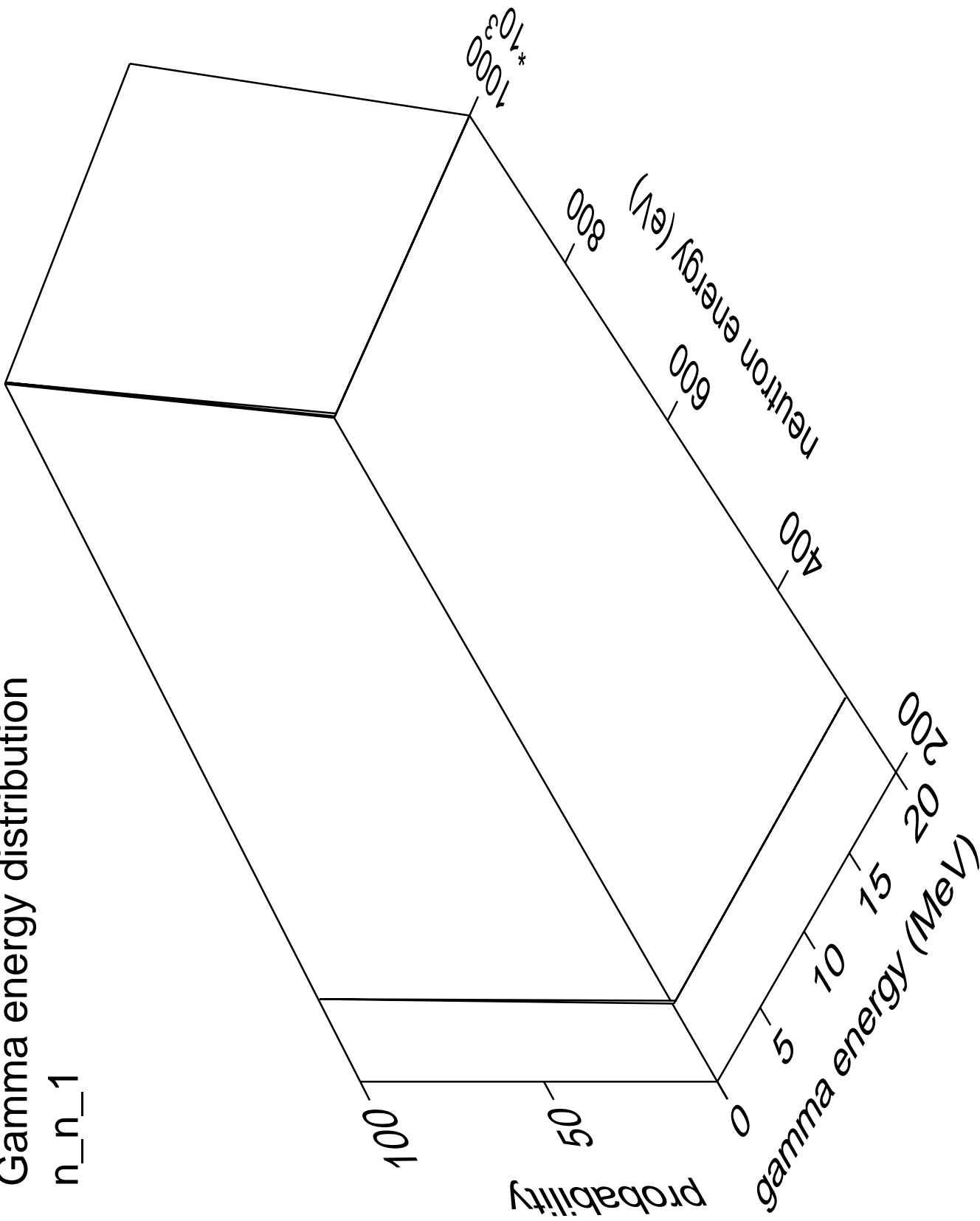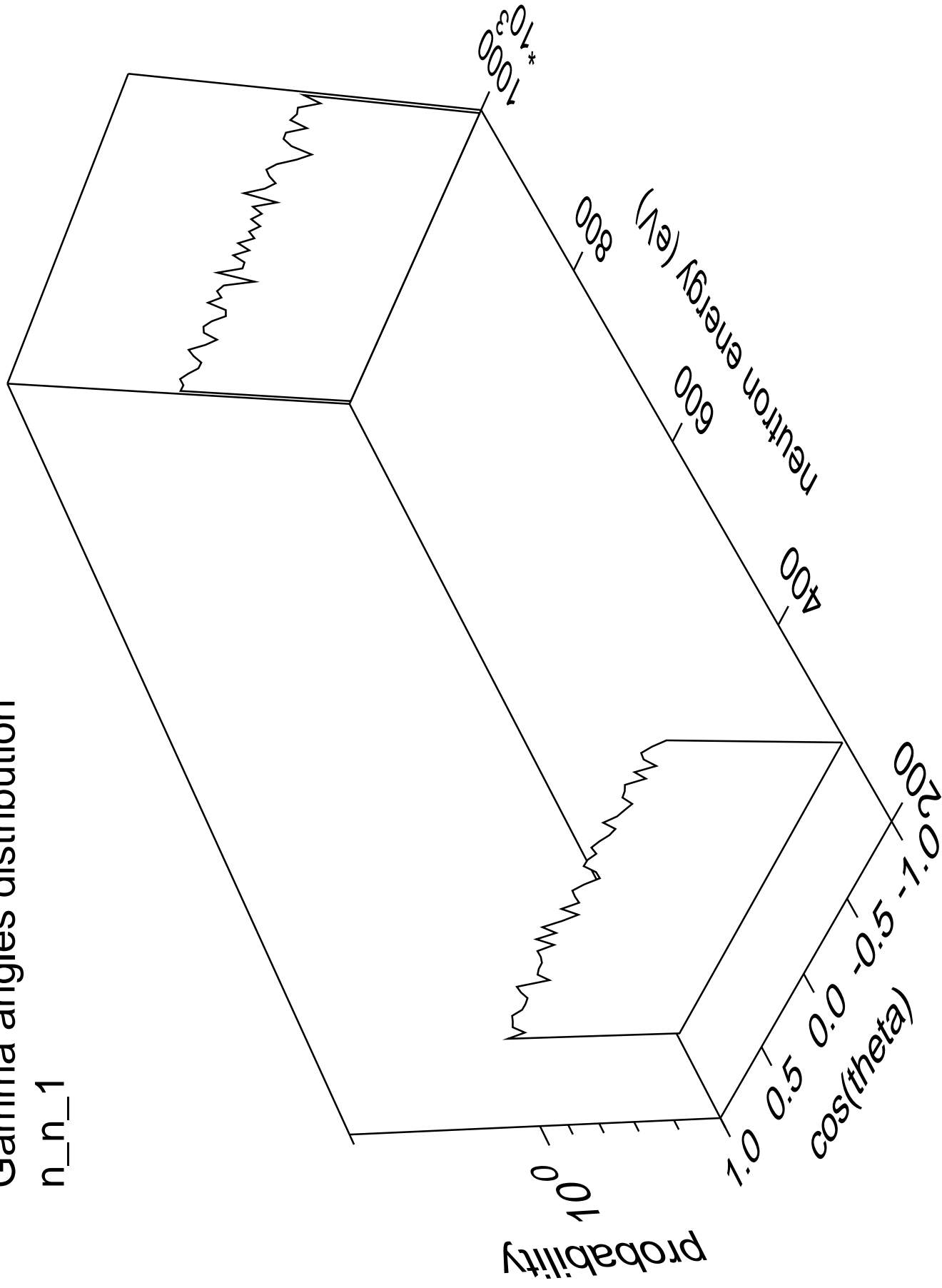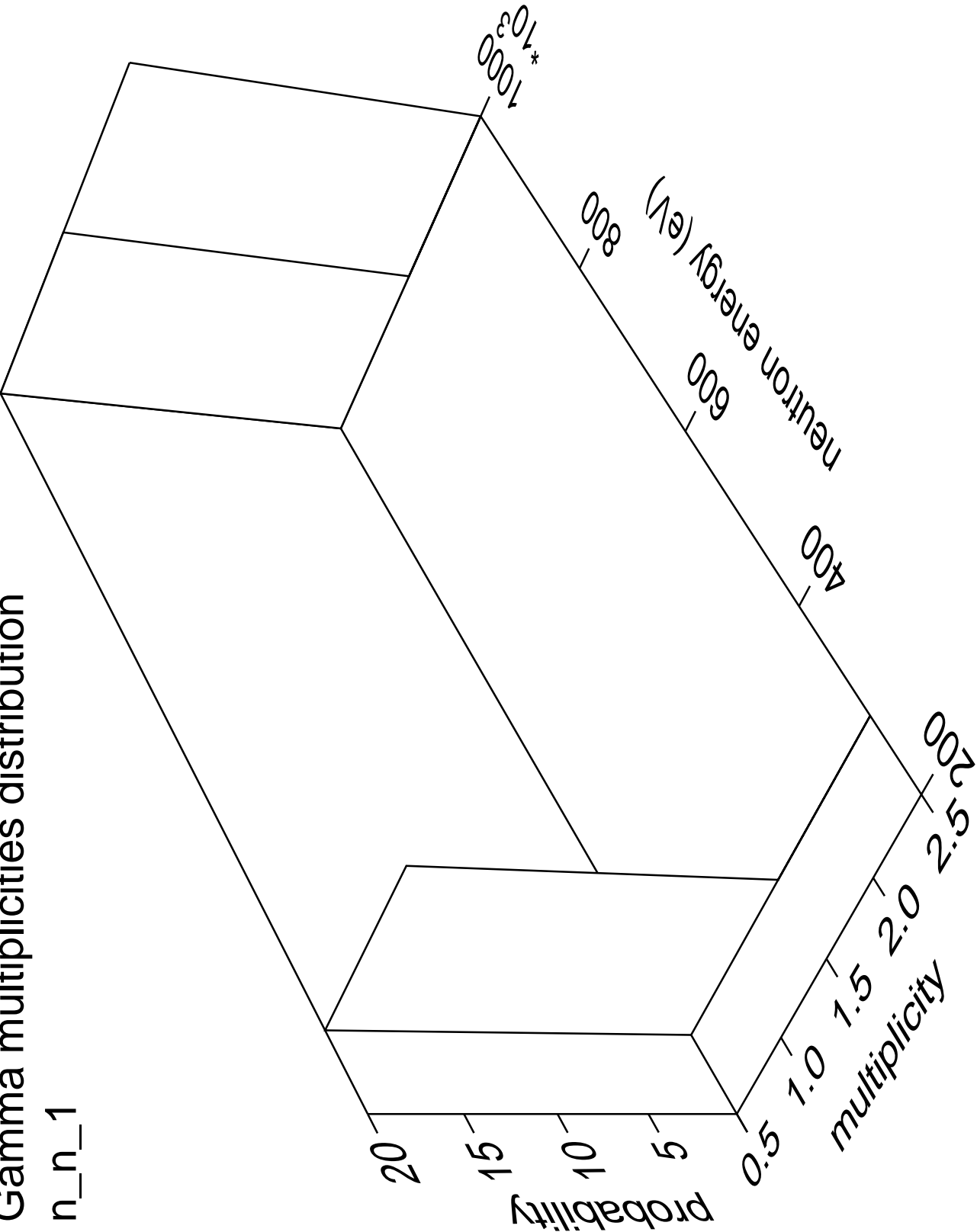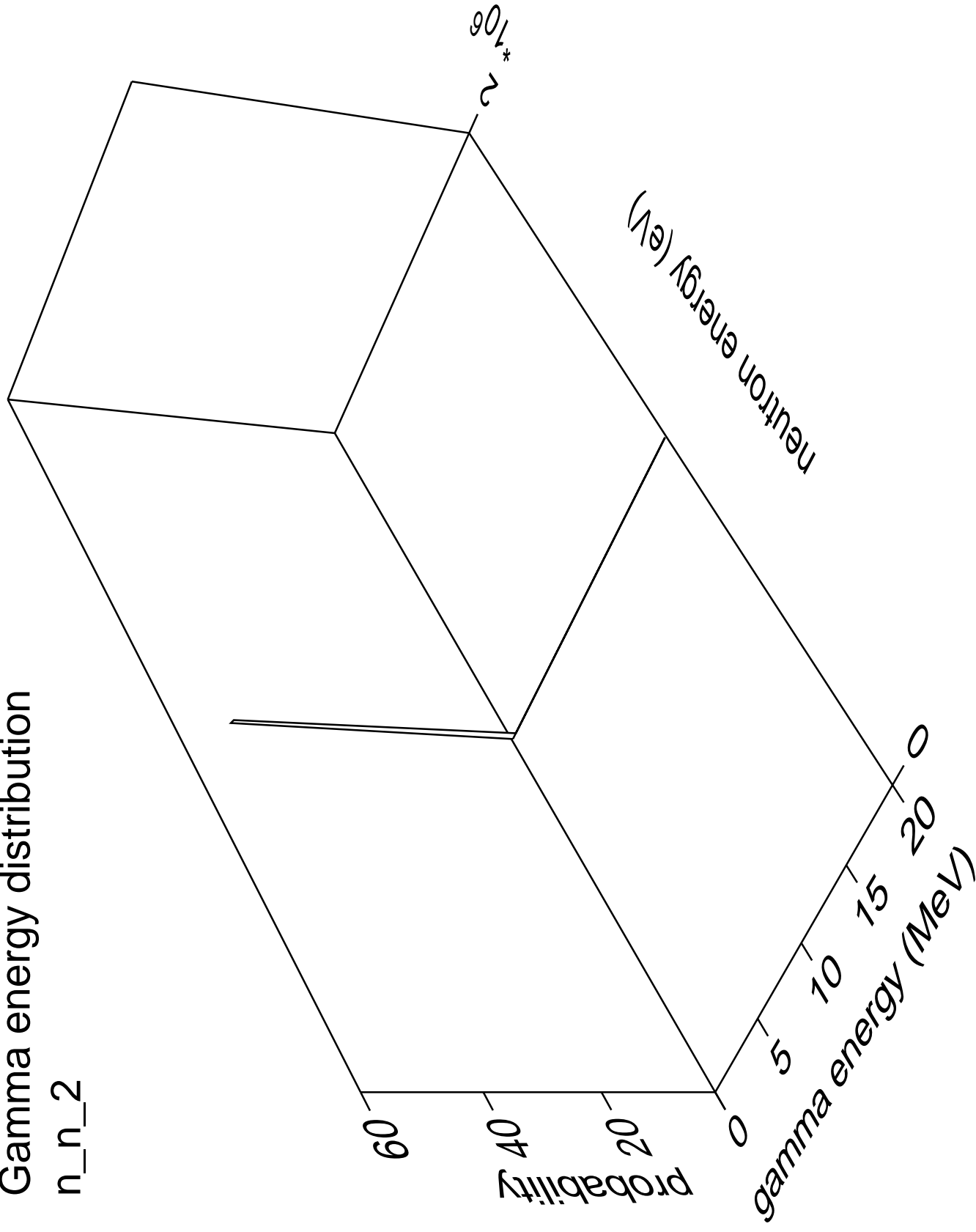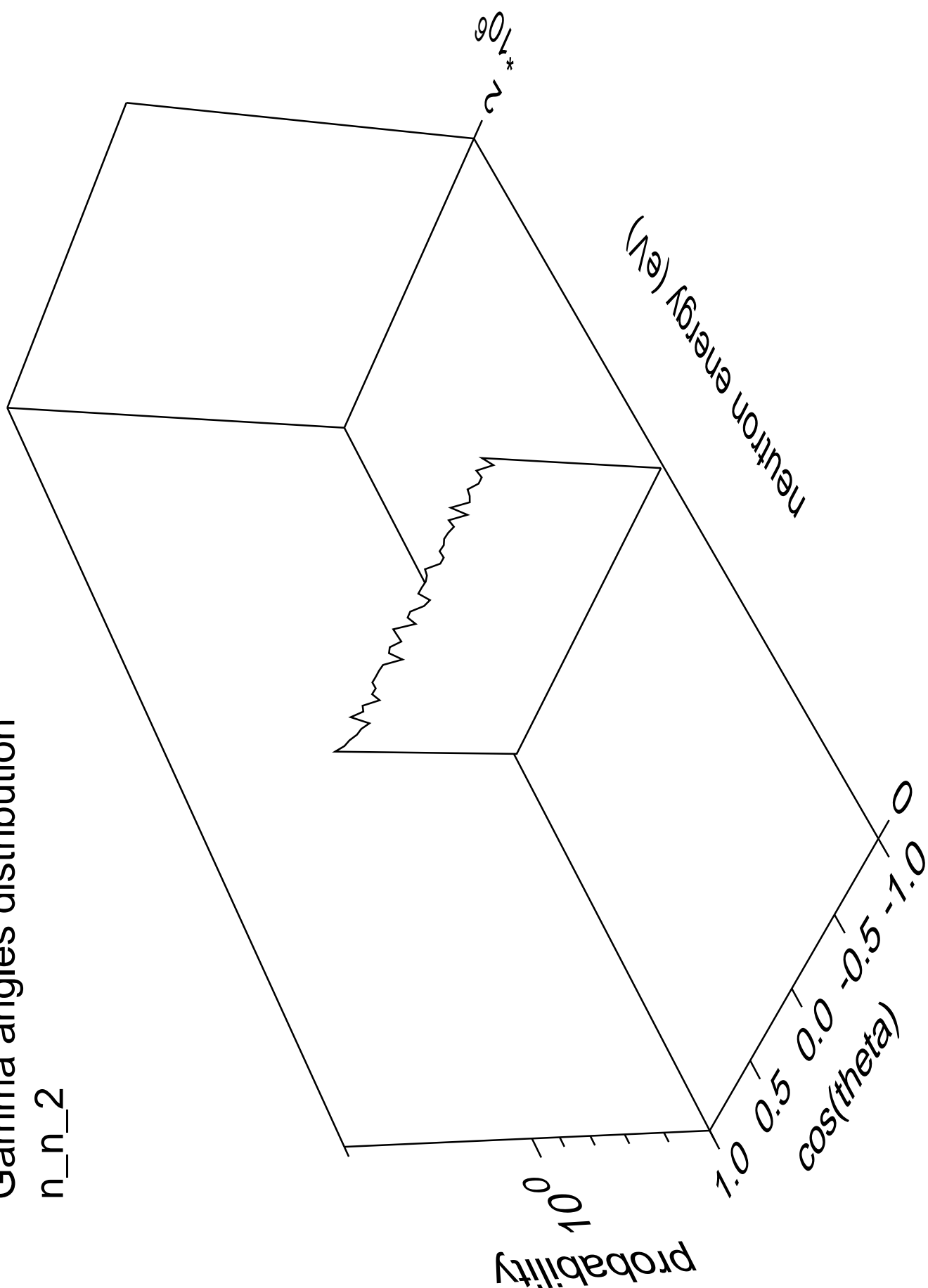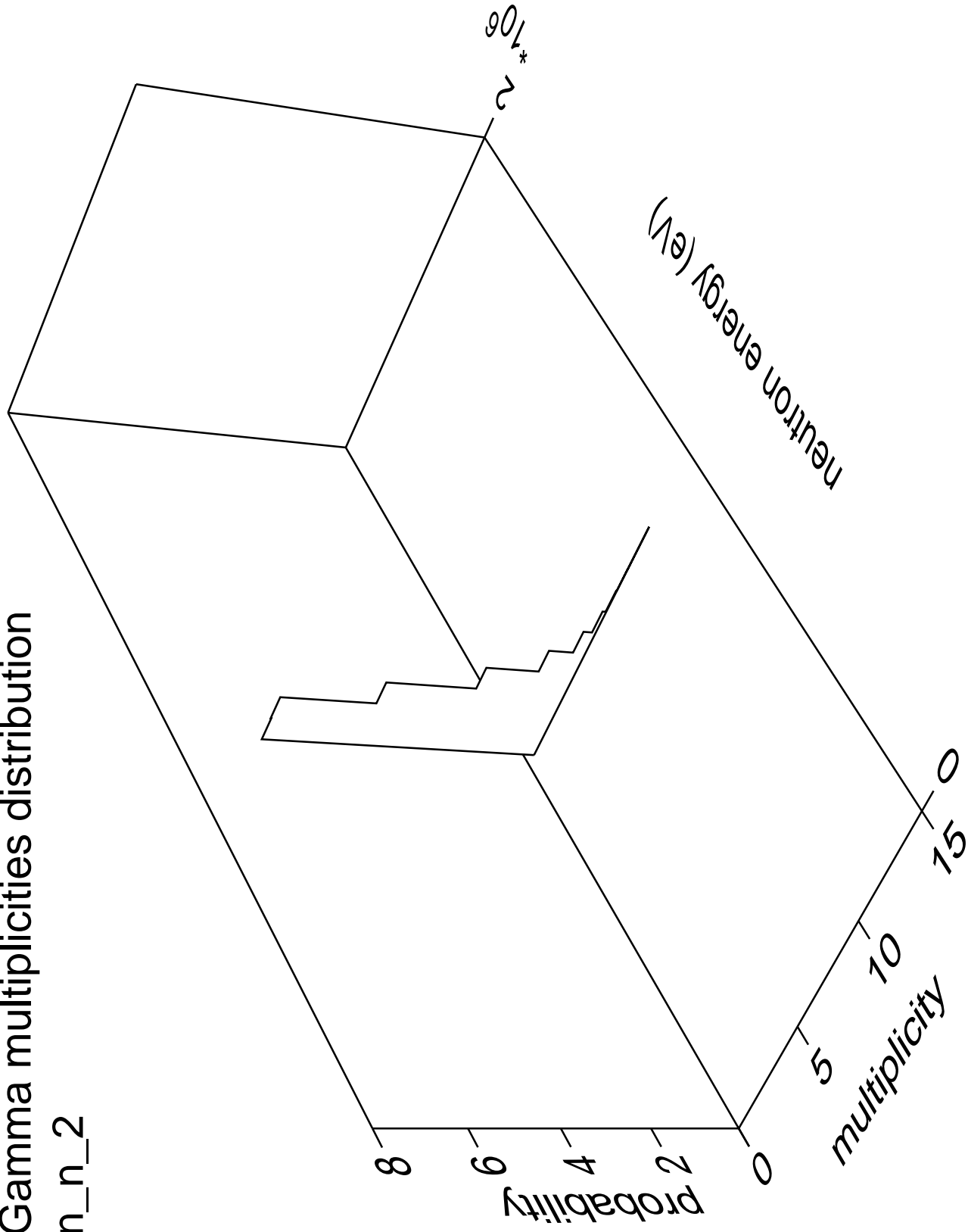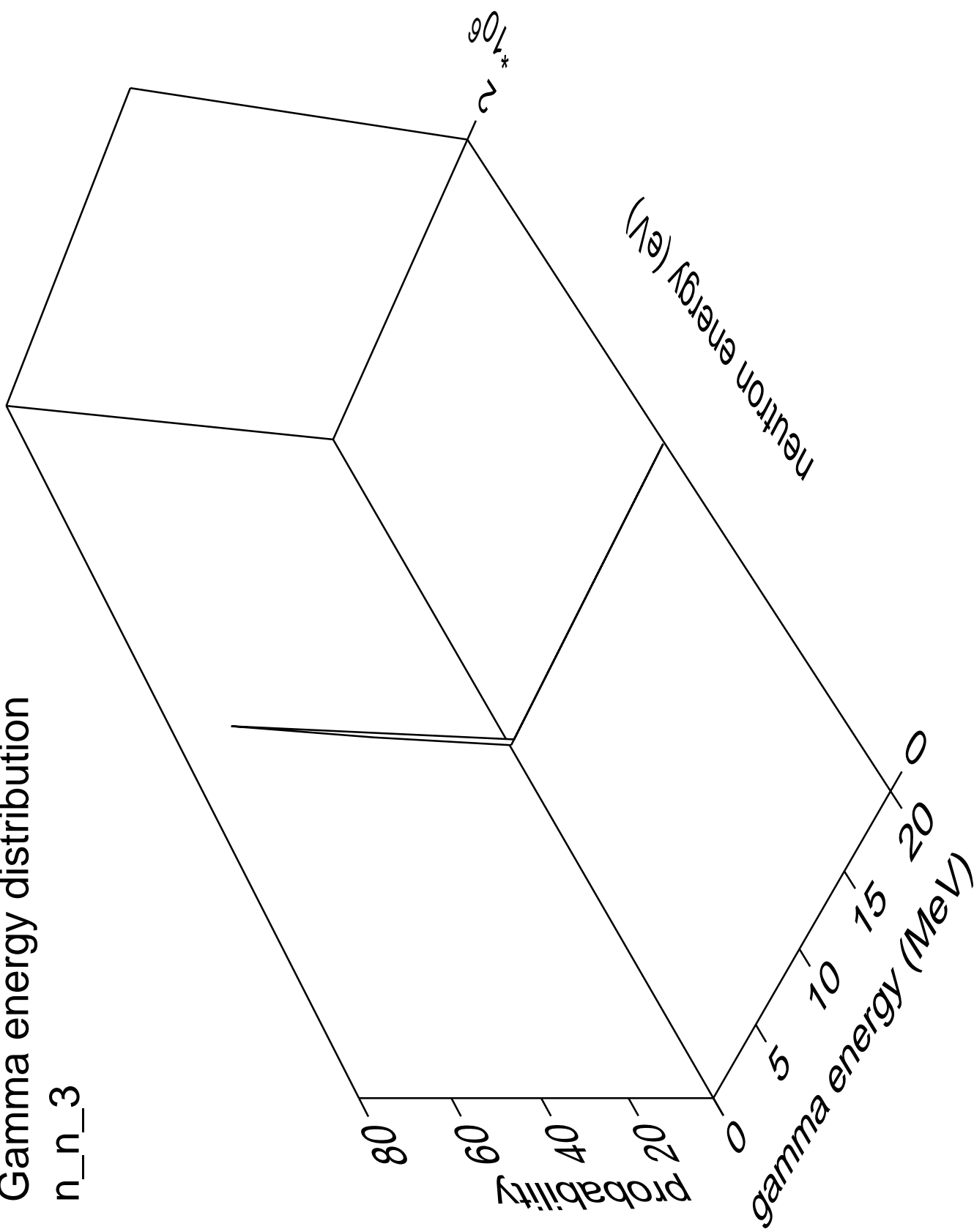
Gamma angles distribution
n_n_3

Gamma multiplicities distribution
n_n_3
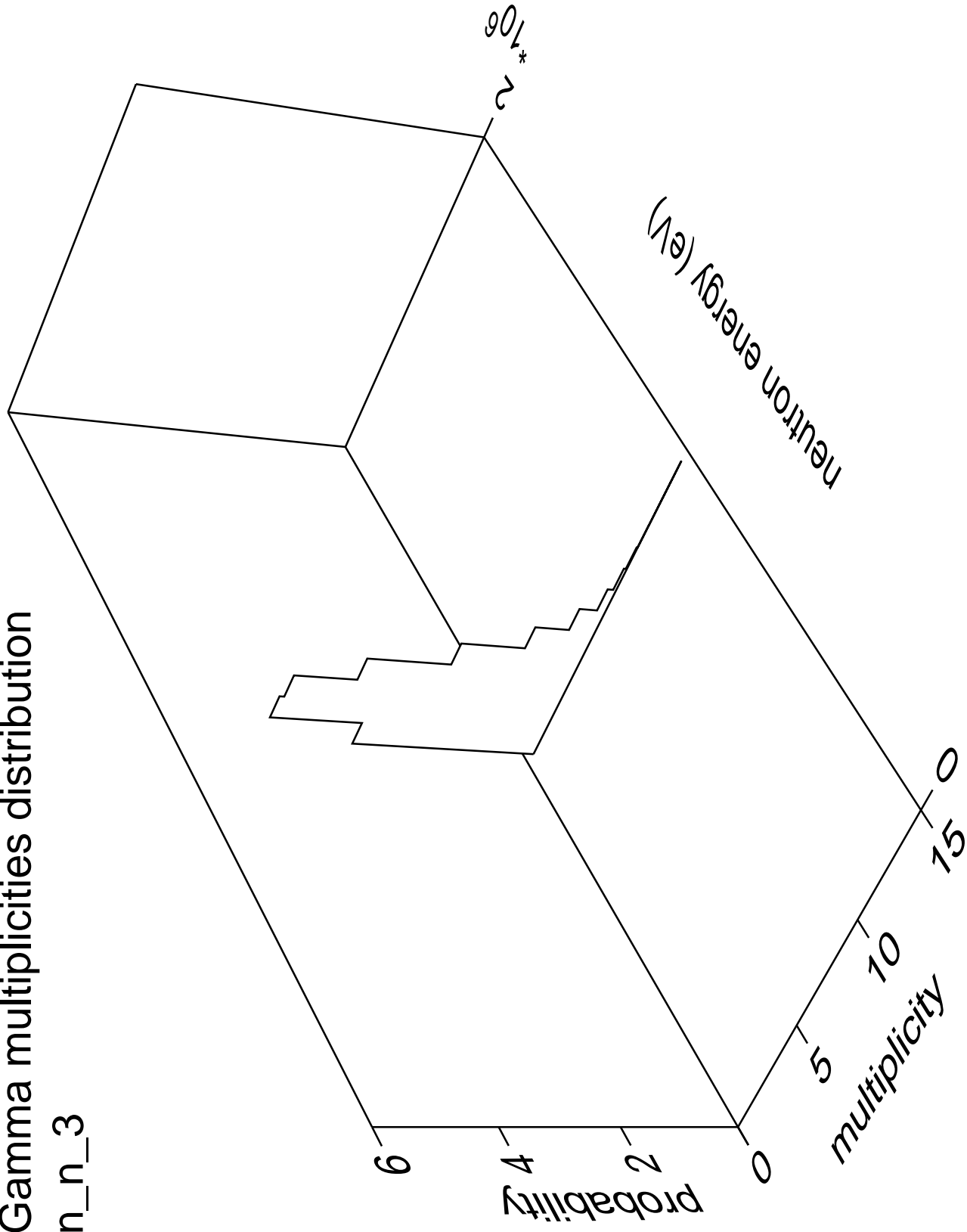
probability

multiplicity

neutron energy (eV)

*10⁶

Gamma energy distribution
n_n_4

probability

gamma energy (MeV)

neutron energy (eV)

$v *10^6$

Gamma angles distribution
n_n_4

probability

2 *10⁶

neutron energy (eV)

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

0
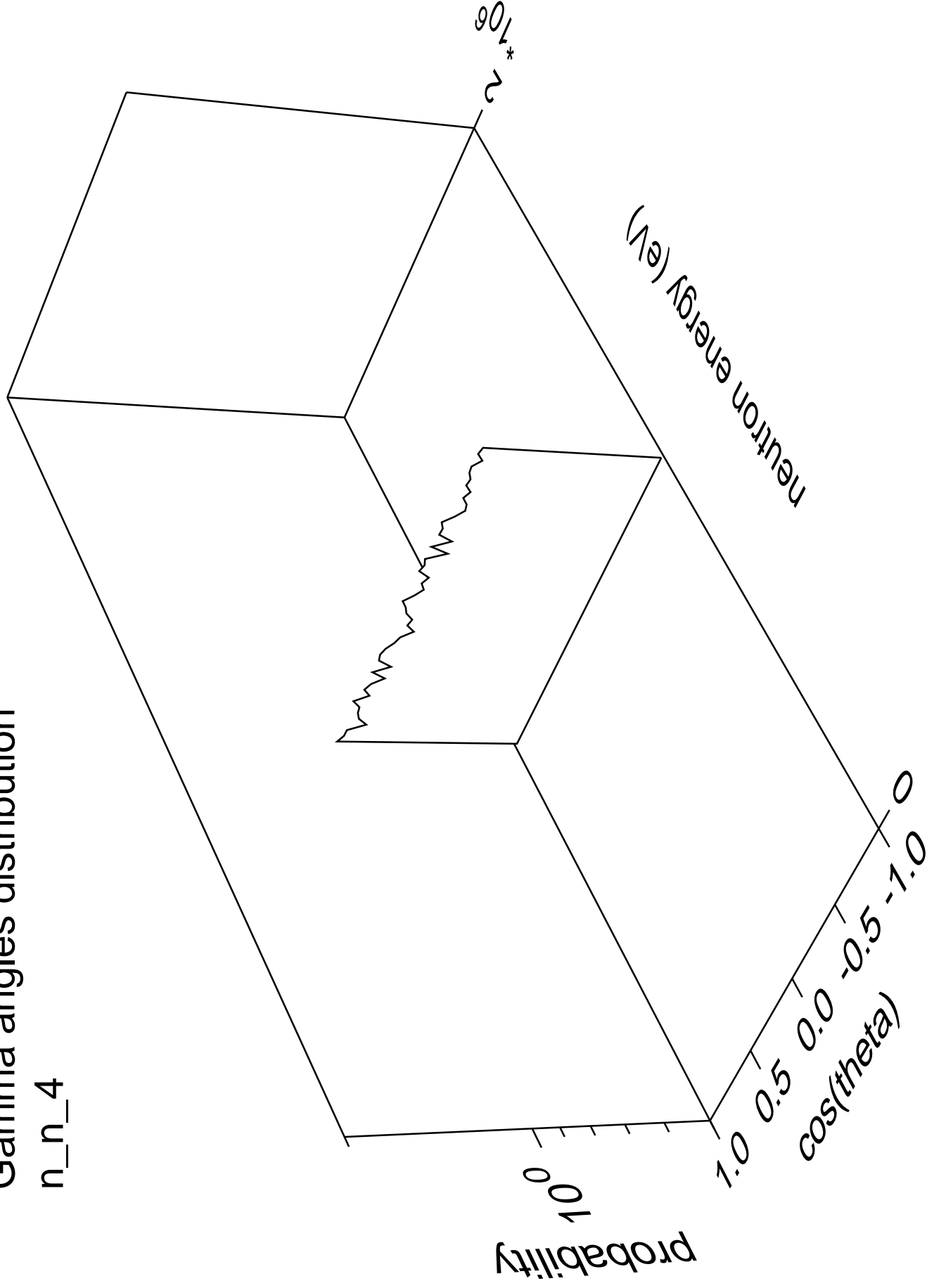
Gamma multiplicities distribution
n_n_4

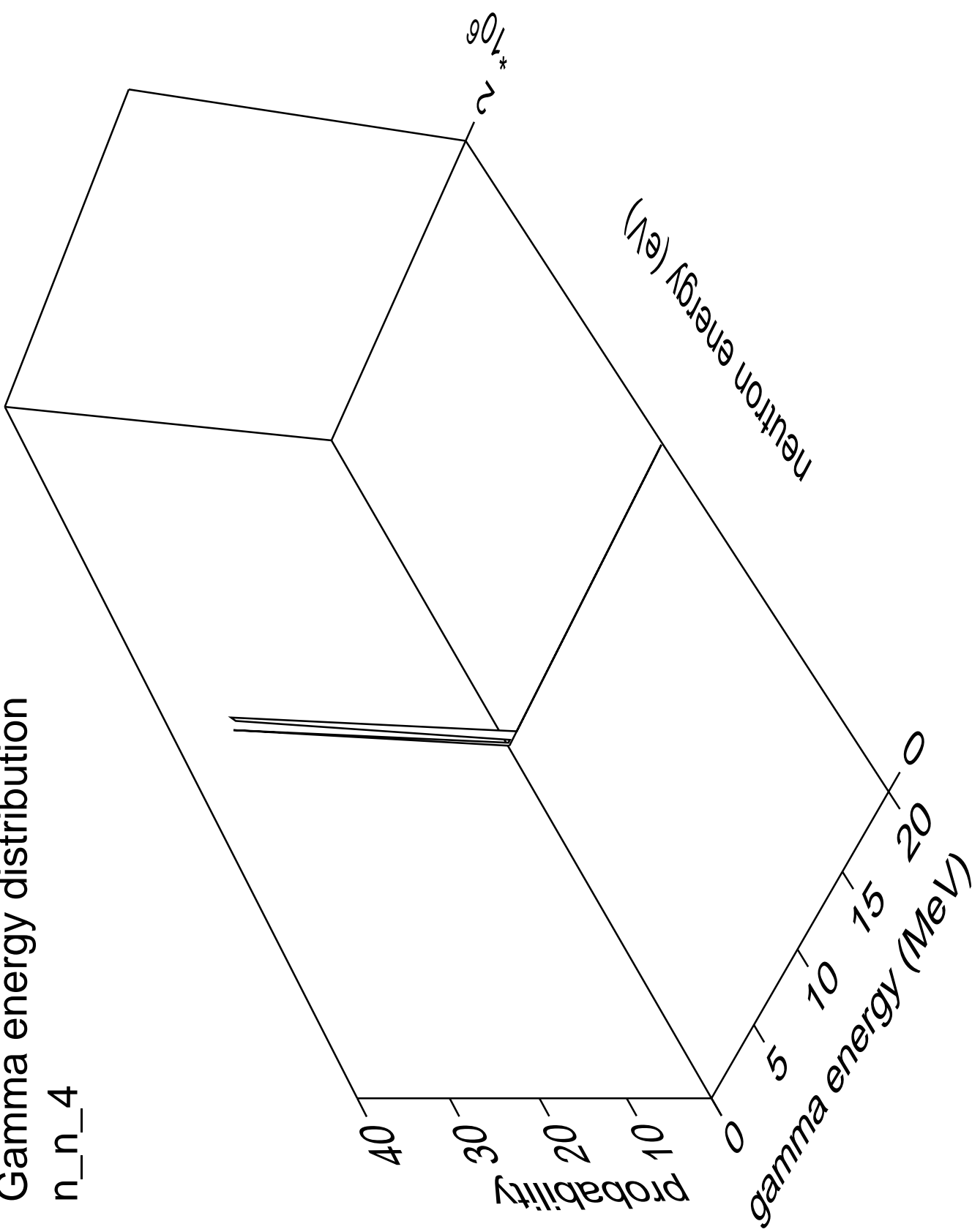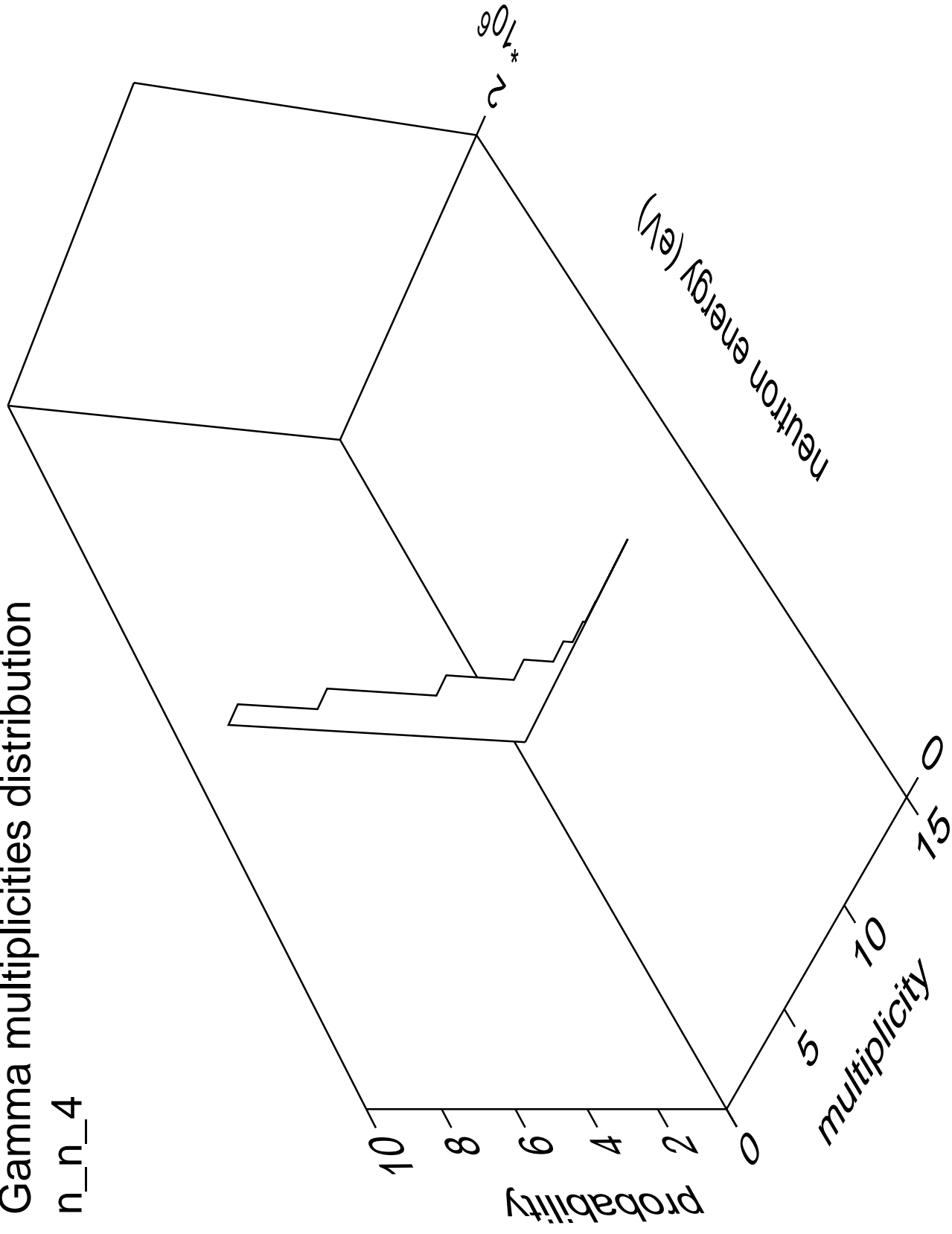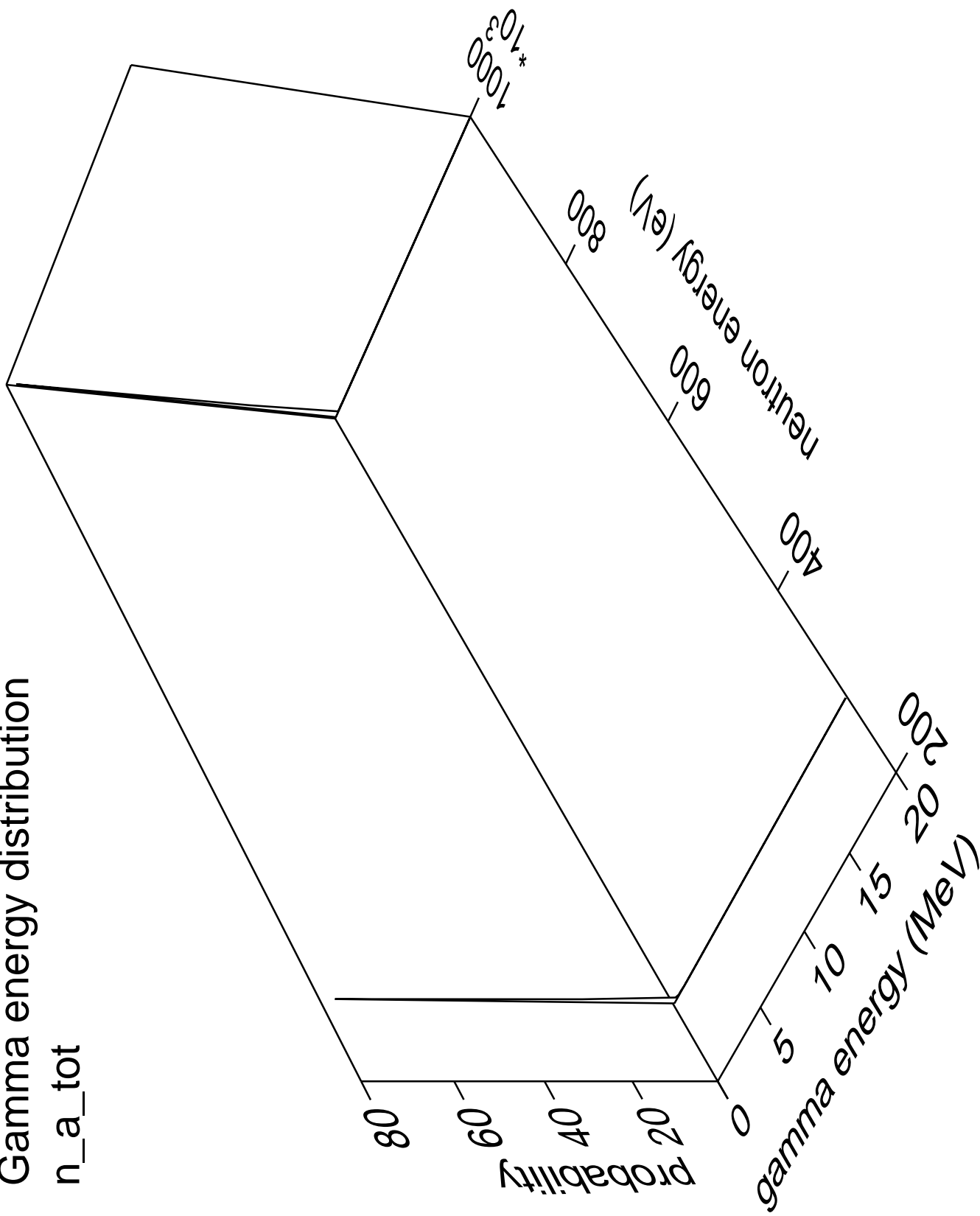Gamma energy distribution
n_a_tot

Gamma angles distribution
n_a_tot

probability

neutron energy (eV)

cos(theta)

Gamma multiplicities distribution
n_a_tot